Research Note 85-49

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BASIC SKILLS RESOURCE CENTER: A DESCRIPTIVE STUDY OF LEARNING STRATEGY APPLICATIONS BY ENGLISH AS A SECOND LANGUAGE STUDENTS AND TEACHERS IN THE ARMY

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A part of the Basic Skills Resource Center research component, the research effort described in this report was designed to analyze the range and type of learning strategies used by ESL students and teachers in the Army and determine the potential for performing a training study of learning strategies in military ESL classrooms. Data collected through personal interviews with students, teachers, and program administrators; classroom observations; and student background questionnaires are synthesized and summarized.

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FOREWORD

The Instructional Technology Systems Technical Area of the U.S. Army Research Institute for the Behavioral and Social Sciences directs research in learning strategies applications with a special focus on educational technology and links to military education and training. These research and development efforts are aimed at the overall improvement of the Army's Basic Skills Education Programs.

This report describes a special study which focused on an analysis of learning strategies used by students and teachers associated with the Army's English as a Second Language program. Personal interview data elicited from students and teachers as well as data solicited from students via background questionnaires provides direction to future project efforts that will analyze the potential for training students in the use of ESL related learning strategies. Overall, these efforts provide direction to decisions that will promote training in basic skills programs which facilitate the acquisition of speaking and listening skills in English as a second language.

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EXECUTIVE SUMMARY

A Descriptive Study of Learning Strategy Applications by English as a Second Language Students and Teachers in the Army

InterAmerica Research Associates developed and operates the Basic Skills Resource Center (BSRC) under contract with the U.S. Army Research Institute (ARI). The BSRC project has two interfacing components: the design, implementation, and operation of an information service; and the implementation and monitoring of applied research in the area of adult basic skills and continuing education. This report describes one of five research studies undertaken through the BSRC research component.

This study was undertaken to analyze the range and type of learning strategies used by English as a second language students and teachers in the Army and to determine the potential for performing a training study of learning strategies in military English as a second language classrooms. The subjects were 37 soldiers enrolled in the Army's BSEP I-ESL program; 32 of the students were of Hispanic background, mostly from Puerto Rico, and 5 were Asian. Students were asked to complete a Student Background Questionnaire and a Learning Strategies Inventory and to participate in a Foreign Service Institute (FSI) oral proficiency interview. The students also responded to a personal interview following a Student Interview Guide in which they were asked to describe uses of learning strategies with selected English language tasks. In addition, four teachers responsible for conducting ESL training and the ESL Program Director participated in interviews following a Teacher Interview Guide and Program Director

Interview Guide, respectively. The ESL Program Director interview and classroom observations were undertaken to identify information about the ESL program, teachers, students, and facilities. Finally, a series of classroom observations were completed during the three-day site visit.

Analyses of the information acquired through these data collection activities indicated that a majority of soldiers (86.5 percent) had studied English previously to entering the Army and that the soldiers demonstrated a mean FSI rating of slightly less than a 1+ elementary oral proficiency level. ECLT scores and FSI scores of the soldiers who had most recently resided in the United States were slightly higher than the scores of soldiers who had MRR in Puerto Rico.

An extensive range and variety of metacognitive and cognitive learning strategies were reportedly used by students to accomplish a variety of tasks in learning English as a second language. Overall, soldiers reported using the metacognitive strategies of self-management and selective attention. The most frequently reported use of cognitive strategies included repetition and questioning for clarification. In general, the students tended to use many more cognitive than metacognitive strategies. This confirmed earlier findings suggesting that students who apply learning strategies in second language learning use cognitive strategies requiring less transformation or manipulation of the materials to be learned. In addition, strategies were used more frequently for learning vocabulary tasks and for listening comprehension tasks than for oral production tasks.

Strategy data were also analyzed to see what effect most recent residence and language proficiency had upon reported strategy use. The MRR-U.S.

group reported use of more cognitive strategies than soldiers in the MRR-P.R. group, particularly those strategies which required accepting language assistance from external sources (i.e, cooperation and resourcing). Analysis of interview data by language proficiency revealed that soldiers scoring below 50 on the ECLT reported a much greater use of directed attention. Analysis of LSI data revealed that the higher proficiency group reported greater use of every metacognitive and cognitive strategy on the instrument.

Teacher interviews found that most teachers were unaware of how students learned, and did not offer suggestions to the students as to how they might improve or accelerate their learning of English. This finding also confirmed earlier findings identified in public school based ESL programs, which indicated that teachers are not generally attuned to the tactics students employ to direct their own learning.

All data collected indicate that embedding learning strategies training into the present Army ESL curriculum is both possible and highly promising. Of particular interest to this research effort are applications of the questioning for clarification, cooperation and functional planning strategies focused on listening comprehension and oral production tasks.

A DESCRIPTIVE STUDY OF LEARNING STRATEGY APPLICATIONS BY ENGLISH AS A SECOND LANGUAGE STUDENTS AND TEACHERS IN THE ARMY

I. INTRODUCTION

The Study of Learning Strategies for Acquiring Skills in Speaking and Understanding English as a Second Language was designed to identify strategies that students can use to improve language learning and retention. The study was conducted by InterAmerica Research Associates for the U.S. Army Research Institute for the Behavioral and Social Sciences under Contract No. MDA-903-82-C-0169 for operation of a Basic Skills Resource Center. The Center consists of an information database and communications network on Army basic skills education, and a research component on learning strategies in basic skills education. The Study of Learning Strategies for English as a Second Language (ESL) was one of five studies performed by the Center within the research component.

This report is the first of two reports for the military component of the ESL learning strategies study. Four prior reports described research conducted in secondary school ESL classrooms: a review of the literature, a descriptive study, a teacher's guide, and an experimental study of learning strategies training with vocabulary, listening, and speaking tasks. This first report on the military component presents the results of a descriptive study conducted on an Army base with foreign language background enlistees learning English as a second language. The study analyzed learning strategies known to ESL students and teachers, and explored the potential for conducting an experimental study in the Army's

English as a second language classrooms. The second report will describe a pilot effort to develop and evaluate a learning strategies approach to teaching English as a second language in the military.

The purposes of the study described in this report were (a) to analyze the range and type of strategies used by English as a second language students and teachers in the Army; and (b) to determine the potential for performing a training study of learning strategies in the military English as a second language classrooms. Data collection in the Army was used to augment prior information on learning strategies used by high school ESL students, and to identify strategies that were candidates for use with the curriculum used in the Army ESL classes. An analysis of instructional procedures used with this curriculum was performed to determine if the instructional approach could be modified to incorporate the teaching of learning strategies. In this modified instructional approach, students would be trained to use special strategies to assist their learning and retention of second language materials, while the basic content and objectives of the Army curriculum remain unchanged.

Background

Army ESL. Many of the language minority soldiers currently enlisted in the Army do not have sufficient skills in English to succeed in military training. The Army estimates that at least 5 percent of the total enlisted force has English language difficulties. In FY 1982 alone, the enrollment in special classes for English as a second language (ESL) was estimated to be between 1,500 and 2,000 soldiers (Oxford-Carpenter, Harman, & Redish, 1983). Hispanic Army enrollments, which constitute approximately 90

percent of the ESL participants, are projected to increase substantially through the year 2000 (Oxford-Carpenter et al., 1983). Evidence in other services indicates that limited English speaking Hispanic recruits have higher attrition rates, reduced promotion potential, and decreased job efficiency compared to English speaking recruits (Salas, Kincaid, & Ashcroft, 1980).

Almost all of the Hispanic soldiers in ESL classes are from Puerto Rico. They are primarily high school graduates who are literate in Spanish, and have some college experience (Holland, Rosenbaum, Stoddart, Redish, Harman, & Oxford-Carpenter, 1984). Nearly all have studied English as a foreign language in school, some from elementary through secondary school. The Puerto Rican soldiers nevertheless originate from a Spanish-dominant environment and have had little opportunity to use English skills outside of school. Consequently, the ESL enlistees usually have little facility in speaking English or in understanding spoken English although they may have some ability to read or write in English (Oxford-Carpenter et al., 1983). Despite these limitations, they have considerable potential to contribute to the military as suggested by their educational level, their proficiency in their own language, and their overall motivation (Holland et al., 1984).

The Army provides special ESL courses to increase the potential of limited English proficient enlistees to contribute to the military, to assure that these soldiers have equal opportunities to advance in their military careers, and to control costs associated with attrition and decreased job efficiency. The Army provides six weeks or 180 hours of ESL instruction to enlistees with limited English proficiency prior to Basic Training (BT) and may provide additional ESL in Advanced Individual Training (AIT). ESL

provided prior to BT is part of the Basic Skills Education Program (BSEP) and has been studied extensively (Holland et al., 1984; Oxford-Carpenter et al., 1983). Traditionally, the Army has used the English Language Comprehension Test (ELCT) to identify limited English proficient enlistees, and uses a criterion score on the test of 70 percent. The ELCT is a timed test with 75 listening comprehension items and 45 items assessing vocabulary, grammar, and reading. In FY 1982, there were six installations in the continental United States offering ESL instruction: Forts Benning, Dix, Jackson, Knox, Leonard Wood, and Sill. In the fall of 1983, the Army required all six installations to use a common ESL curriculum designed by the Defense Language Institute (DLI).

The Army has an ongoing concern for enhancing the effectiveness of instruction in all BSEP courses. One of the ways to increase the effectiveness of instruction in general is to teach students to use learning strategies or special techniques to facilitate learning and retention (Weinstein & Underwood, in press). Students can use these strategies in the classroom, during independent study, or in non-academically related attempts to gain command over new skill areas. Although a number of investigations have explored the use of learning strategies with remedial reading courses taught as part of BSEP (e.g., Wittrock & Kelly, 1984), there has been no analysis yet performed of the potential for learning strategies approaches to be integrated with the DLI/ESL curriculum.

Research On Learning Strategies. Learning strategies are operations or steps used by a learner that will facilitate the acquisition, storage, or retrieval of information (Dansereau, in press; Rigney, 1978). Research and

theory in second language learning strongly suggest that good language learners use a variety of strategies to assist them in gaining command over new language skills. Language learning strategies, once identified and successfully taught to less competent learners, could have considerable potential for enhancing the development of new language skills and for supporting instructional effectiveness. Teachers can play an active and valuable role by training students in the application of learning strategies to new tasks.

Investigations of learning strategies in the second language acquisition literature have focused on describing strategies used by successful second language learners. Research efforts concentrating on the "good language learner" by Rubin (1975) and others (Naiman, Frohlich, Stern, & Todesco, 1978) have identified strategies, through student report or through observation in language learning situations, that appear to contribute to learning. These efforts demonstrate that students do apply learning strategies while learning a second language, and that these strategies can be described and classified. For example, Rubin proposed a classification scheme that subsumes learning strategies under two broad groupings: strategies that directly affect learning (clarification/verification, monitoring, guessing/inductive reasoning, deductive reasoning, and practice), and those which contribute indirectly to learning (creating practice opportunities, and using production tricks such as communication strategies). An alternative scheme proposed by Naiman et al. (1978) contained five broad categories of learning strategies: an active task approach, realization of language as a system, realization of language as a means of communication and interaction, management of affective demands, and monitoring of second language performance.

Studies of learning strategy applications in the literature on cognitive psychology extend beyond purely descriptive research and concentrate on determining the effects of strategy training for different kinds of tasks and learners. Findings from these studies generally indicate that strategy training is effective in improving the performance of students on a wide range of reading and problem solving tasks (e.g., Brown, Bransford, Ferrara, & Campione, 1983; Seigel, Chipman, & Glaser, in press; Dansereau, in press; Wittrock, Marks, & Doctrow, 1975). One of the more important findings from these studies is the distinction drawn between metacognitive and cognitive learning strategies. Metacognitive strategies involve thinking about the learning process, planning for learning, monitoring of comprehension or production while it is taking place, and self-evaluation of learning after the language activity is completed. Cognitive strategies are more directly related to individual learning tasks and entail direct manipulation or transformation of the learning materials (Brown & Palincsar, 1982). This line of research suggests that transfer of strategy training to new tasks can be maximized by pairing cognitive strategies with appropriate metacognitive strategies. Students without metacognitive approaches are essentially learners without direction or opportunity to review their progress, accomplishments, and future learning directions.

Training research on learning strategies with second languages has been limited almost exclusively to cognitive strategy applications with vocabulary tasks. The typical approach in this research has been either to encourage students to develop their own association linking a vocabulary word with its equivalent in the second language (Cohen & Aphek, 1980;

1981), or to train students to use specific types of linking associations that cue the target word, such as the keyword method (e.g., Atkinson & Raugh, 1975; Levin, in press; Pressley, Levin, Nakamura, Hope, Bispo, & Toye, 1980). Generally, the strategy training is given individually or is provided by special instructional presentations to a group. Dramatic improvements in individually presented vocabulary learning have been reported consistently in these studies.

In a significant departure from previous research on learning strategies in second language acquisition, O'Malley and his coworkers (O'Malley, Russo, Chamot, Stewner-Manzanares, & Kupper, in press-a; in press-b) conducted a two-phased study of learning strategies applied to skills in English as a second language. In phase one 70 beginning and intermediate level ESL high school students were interviewed in small groups of 3-5 to determine the types of strategies these students used with specific language learning tasks. The tasks included pronunciation, grammar, vocabulary, following directions, making a brief oral presentation, social communication, and operational communication (e.g., applying for a job). Teachers of these students, both in ESL and non-ESL classrooms, were also interviewed. Findings indicated that students used a wide range of learning strategies but tended to use strategies with less complex tasks and strategies that required less cognitive manipulation of information. Strategies that students reported using were classified into 9 metacognitive and 17 cognitive strategies. Teachers were generally unacquainted with learning strategies and with procedures students used to review and study once the instructional material had been presented. The potential appeared to exist for both students and teachers to profit from familiarization with learning strategies.

The second phase of the ESL learning strategies study was an experimental investigation of different levels of metacognitive and cognitive strategy training on three language learning tasks: vocabulary, listening, and speaking skills. Subjects were high school intermediate level ESL students from Hispanic, Asian, and other ethnic backgrounds. The training methodology employed typical high school ESL materials with a natural teaching approach for one hour daily over eight days in which cues for strategy use were gradually faded over time. Results revealed that learning strategies training was (a) not significant overall for vocabulary, although results for Hispanics were in the predicted direction; (b) significant for listening skills, depending on task difficulty or strength of cues to use learning strategies; and (c) significant for speaking skills in the predicted direction. The implications of this study are that a learning strategies approach can be effective in a natural teaching environment through variations in the teaching methodology rather than through extensive revision of curriculum materials. The study also indicated that learning strategy training can be effective for higher level second language skills such as listening and speaking.

Applications of Learning Strategies Training in Army ESL Classes. The two-phase study conducted by O'Malley et al. raises a number of interesting possibilities for learning strategy training to be applied in the DLI/ESL curriculum. If strategy training can be conducted through modifications of teaching procedures rather than through major changes in curriculum materials, a strategies training system could be superimposed over the DLI/ESL curriculum through adjustments in the instructional approach. This

would retain the integrity of the curriculum while strengthening the capabilities of the students to learn English and serve a complementary purpose in achieving the curriculum objectives.

A number of exploratory steps are required to determine the feasibility of learning strategies training with the DLI/ESL curriculum. The exploratory steps can be analyzed in a two-part investigation similar to the approach O'Malley et al. used with high school students. In phase one of the study, soldiers would be interviewed to determine the range and type of strategies they apply to learning English in the event that different strategies emerge due to the uniqueness of the military setting. Teachers would also be interviewed to determine the extent to which learning strategies are already used in presenting the curriculum. The interviews should be supplemented with observations to determine the manner in which the curriculum is presented and to analyze potential lessons through which learning strategies could be introduced. During this phase, the full DLI/ESL curriculum should be analyzed to gain a clearer impression of the specific procedures that might be used for learning strategies training. The second phase of the study should consist of the pilot investigation in which teaching procedures for selected lessons from the DLI/ESL curriculum are designed to include training on learning strategies. These procedures should be presented to soldiers and given a formative evaluation. Additionally, test items to evaluate the curriculum effectiveness should be developed and evaluated with soldiers to whom the training has been presented.

Purposes

The purpose of this investigation was to conduct the phase one investigation of learning strategies in the military. The specific objectives were as follows:

- To analyze the range and type of strategies used by English as a second language students and teachers in the Army,
- To analyze the relationship of selected student characteristics to use of learning strategies and language proficiency,
- To determine the potential for performing a training study of learning strategies in the military ESL classrooms, and
- To identify lessons in the DLI/ESL curriculum that would be suitable for a learning strategies instructional approach.

II. APPROACH

Overview

This investigation was concerned with identifying the range and type of learning strategies used by ESL students and teachers in a representative Army ESL program. Data collection activities included interviews, questionnaire administration, and classroom observations, carried out over a three day period in an Army installation located in the continental United States.

Interviews conducted with students and ESL teachers elicited information about types of learning strategies used with various language learning activities and tasks. In addition, Foreign Service Institute (FSI) oral interviews were conducted with students in order to ascertain their level of English proficiency. The ESL Program Director was also interviewed about the design and staffing of the program, student characteristics, and general facilities.

In addition to the interviews, data were collected through two group-administered instruments. These were a questionnaire on student background, and an inventory in which students indicated how frequently and for which activities they employed certain learning strategies in their study of English.

Classroom observations and teacher interviews were conducted to provide information about aspects of the DLI/ESL curriculum and teaching approach that could be integrated with learning strategies instruction.

Methodology

Subjects. The subjects were 37 soldiers enrolled in the Army's BSEP I-ESL program at the Army installation participating in the descriptive study, as well as the ESL Program Director, and four teachers responsible for conducting ESL training. Thirty-two of the students were Hispanic, mostly from Puerto Rico, and 5 were Asian. Twenty-seven students were enlisted in the Regular Army, and 9 had enlisted in the National Guard (one student did not provide this information). The students had been classified as limited in English proficiency on the basis of their scores on the Army's English Comprehension Level Test (ECLT), which requires a minimum score of 70 percent to pass; students scoring below 70 are eligible for ESL before going to Basic Training. About half of the students had scored at mid level on the ECLT (30-49 percent) and about half had scored at a high level (50-69 percent); only one student had scored at a low level on this test (0-29 percent). (Note: The score intervals described here for low, middle and high entry ECLT scores are in keeping with those used in the American Institutes for Research report on the Army BSEP I-ESL program (Holland et al., 1984).)

These students were enrolled in the intensive six weeks ESL instruction developed by the Army to increase overall English proficiency and to provide students with exposure to military vocabulary, expressions, social behavior, and specific knowledge needed for Basic Training. At the end of the first three weeks of ESL training, students recommended by the teacher can retake the ECLT and exit from the ESL course by scoring 70 or above. At the end of the six weeks ESL course all students retake the ECLT and

exit to Basic Training regardless of their final score. The students interviewed who expected to take the three weeks exit test generally expressed high motivation for improving their English, whereas those who could not exit early from the ESL course tended to be less motivated to increase their English proficiency level.

Instruments. Five data collection instruments were used in the study: the Student Interview Guide (Appendix A), the Teacher Interview Guide (Appendix B), the Program Director Interview Guide (Appendix C), the Student Background Questionnaire (Appendix D), and the Learning Strategies Inventory (Appendix E).

The Student and Teacher Interview Guides were similar, in that each asked the person interviewed to describe strategies used to facilitate learning and retention in eight language learning situations. Six of these were activities typically found in ESL classes: pronunciation exercises, oral grammar drills and exercises, vocabulary learning, instructions and directives, listening to a teacher's lecture, and formal classroom speaking. The other two language learning situations, typically occurring outside the classroom in acquisition environments, were social communication and operational or functional communication. In addition, the Teacher Interview Guide contained questions about the ESL curriculum, materials, and methodological approach.

The Program Director Interview Guide contained questions on the ESL program, teachers, students, and facilities at the base. Information elicited covered program design (objectives, scheduling, materials, entry and exit), assessment (instruments, procedures, scheduling), staffing

(number, training, experience, turnover), methodological approach and class organization, students (background, ECLT scores, needs, and motivation), and facilities available (language lab, tape recorders, duplicating, etc.)

The Student Background Questionnnaire consisted of 18 questions covering personal background and education, language use and skills, and educational objectives. A Spanish version of this questionnaire was available for students with limited English reading proficiency.

The Learning Strategies Inventory was a 42-item questionnaire designed to detect uses of 14 learning strategies with specific language learning tasks. Five of the learning strategies questioned were metacognitive and nine were cognitive. The instrument presented statements describing a learning task, and asked the students to respond by indicating if the statement was never true about me, sometimes true about me, usually true about me, or always true about me. A Spanish version of this instrument was also available for students requesting it.

In addition to the five instruments described above, guidelines were available for conducting Foreign Service Institute (FSI) oral proficiency interviews (Appendix F). These guidelines described procedures and provided sample questions, to be asked in order of difficulty during the oral interview. Each interview started with simple biographical questions and proceeded to increasingly more linguistically complex questions about the subject's background, future plans, and opinions on current events. The interviews were scored on the FSI scale of 0-4, where 0 indicates no practical proficiency in a language and 4 indicates educated native speaker proficiency. For the ease of data analysis and to account for scores that

fall between steps (i.e., a score of 1+), the FSI scale was converted to a scale of 0-5. The key to this conversion and the definitions of language proficiency at each level are provided at the end of Appendix F.

Procedures. Data collected over the three day period involved the following types of activities: observation of ESL classes, individual teacher interviews, individual student interviews, group administration of the Student Background Questionnaire and Learning Strategies Inventory, Program Director interview, and FSI oral proficiency interviews. The number of persons participating in each data collection activity is presented in Table 1.

Initial classroom observation of ESL classes was undertaken to familiarize researchers with the DLI curriculum in action, teaching approaches of ESL staff, supplementary materials used, and degree and type of student participation. This information facilitated the interviews with teachers and students because reference could be made to class activities actually observed, and knowledge of the general level of English proficiency of the students was helpful in formulating questions to ask them. The classroom observations were also useful in determining the feasibility of incorporating learning strategy instruction into the existing DLI curriculum.

Each of the four teachers was interviewed by a team of two researchers, one of whom conducted the interview while the other took notes. Each teacher interview lasted approximately one hour and all were tape recorded. Teachers were asked if they taught their students any special techniques for approaching each of the eight types of ESL activities described above,

TABLE 1

Number of Students and Teachers Participating in Data Collection,
by Language of Data Collection, Student Ethnicity, and Data Collection Activity

Data Collection Activity	Type of Administration	Number of Participating Teachers	Number of Participating Soldiers			Language Activity was Completed In	
			(n=32) Hispanics	(n=5) Non-Hispanics	(n=37) Total	Spanish	English
Observation of ESL classes	Two observers per classroom	4	23	4	27*	N/A	N/A
Teacher Interviews	One-on-one	4	0	0	0	0	4
Student Learning Strategy Interviews	One-on-one	0	23	4	27	17	10
Student Background Questionnaire	Group	0	31	5	36	31	5
Learning Strategies Inventory	Group	0	30	5	35	28**	7
Program Director Interview	One-on-one	0	0	0	0	0	1
FSI Oral Proficiency Interview	One-on-one	0	32	5	37	0	37

* Observations were conducted on the first two days of data collection. On the final day of data collection, 10 new students entered the program. They were not part of any classroom observation.

** The LSI of one soldier included in this count was omitted from data analyses due to a large number of item non-responses.

and whether they had observed their students using any special techniques or strategies on their own as an aid to language learning. In addition, teachers were asked to briefly describe examples of each of the six classroom ESL activities if they took place in their classrooms, and, in the case of social and operational communication, examples of situations outside the classroom in which students had to use these communication skills. The interview tapes and notes were later analyzed by the researcher conducting the interview, and each instance and type of learning strategy instruction or observation was noted.

Twenty-seven students were interviewed individually for approximately 45 minutes each about their use of learning strategies for the eight different types of language learning situations. The remaining 10 students were not interviewed because they were new arrivals starting the ESL course on the last day of data collection, and were therefore not yet familiar with the ESL learning tasks on which the interview questions were based. The students interviewed were asked if they engaged in each of the six types of ESL class activities and two types of language activities outside of class. If they answered affirmatively, they were then questioned about any special tricks or techniques they used to help them succeed with each language task. Hispanic students with less English proficiency were interviewed in Spanish so that they could fully express their ideas about their language learning and describe their learning strategies without being inhibited by lack of English proficiency. The interviews were tape recorded, and the interviewer later analyzed them and noted each instance and type of learning strategy use.

The group administrations of the Student Background Questionnaire (completed by 36 of the 37 subjects) and the Learning Strategies Inventory (completed by 35 of the 37 subjects) were conducted on two successive days. At each administration instructions were provided in both English and Spanish, and Spanish versions of the instruments were provided to all students requesting them. All Hispanics completing the Student Background Questionnaire (n=31) did so in Spanish. All but two completed the LSI in Spanish as well. Of the two Hispanics electing to complete the English version of this instrument, one had most recently resided in Puerto Rico, while the most recent residence of the other was unknown. Students were allowed to take as much time as they needed to complete the questionnaire and the inventory, which required about 30 to 45 minutes together.

The interview with the Program Director was conducted by three researchers, and notes were made of the information provided. Many of the questions in the Interview Guide had already been answered through observation of and discussion with teachers and students. However, the interview with the Program Director served to clarify and confirm details about the program, teachers, and students.

FSI interviews were conducted with all 37 students. One of the researchers, an experienced FSI interviewer, provided two team members with training in the administration of this oral proficiency measure. Each 5-10 minute FSI interview was administered individually and tape recorded. Students were given an FSI proficiency score by the interviewer at the conclusion of the interview, and later each taped interview was analyzed to confirm or adjust the proficiency score.

III. RESULTS

Data analyses for this study are presented in four categories. The first analysis presents general characteristics of ESL soldiers on whom interviews were conducted based on analyses of the Student Background Questionnaire, English proficiency interviews, and ECLT scores. This information provides a descriptive profile of the enlistees on whom the findings are based. The second analysis describes the range and type of strategies used by English as a second language students and teachers and shows the general findings related to learning strategy use in learning English as a second language. The third analysis examines the influence of selected student characteristics, such as recency of residence and language proficiency, upon reported strategy use. The fourth analysis presents a description of the DLI/ESL curriculum in terms of both theory and practice, and is the basis for conclusions concerning potential development of an ESL training study in the Army.

Characteristics of Students

Basic demographic information on the soldiers who participated in Phase I data collection was obtained from the background questionnaire and included country of origin, ethnicity, and Regular Army vs. National Guard enlistment status. Information regarding these data were provided in the approach section of this report. Information about the most recent residence, educational achievement, ESL experience and language use and skills of the soldiers is discussed below and detailed in Table 2 on the following page.

TABLE 2

Comparison of Selected Background and Language Factors of Soldiers

Variable	Response Category	Hispanics (n=32) n	Hispanics (n=32) %	Non-Hispanics (n=5) n	Non-Hispanics (n=5) %	Total (n=37) n	Total (n=37) %
Place of Birth	Puerto Rico	24	75.0	0	-	24	64.9
	U.S.	3	9.4	0	-	3	8.1
	Panama	3	9.4	0	-	3	8.1
	Dominican Republic	1	3.1	0	-	1	2.7
	Nicaragua	1	3.1	0	-	1	2.7
	Korea	0	-	3	60.0	3	8.1
	Thailand	0	-	1	20.00	1	2.7
	Phillipines	0	-	1	20.00	1	2.7
Most Recent Residence	Puerto Rico	17	53.1	0	-	17	46.0
	U.S.	12	37.5	4	80.0	16	43.2
	Germany	0	-	1	20.0	1	2.7
	Unknown*	3	9.4	0	-	3	8.1
Educational Achievement	Less than high school	5	15.6	1	20.0	6	16.2
	High School graduate	18	56.3	3	60.0	21	56.8
	More than high school	7	21.9	1	20.0	8	21.6
	Unknown*	2	6.3	0	-	2	5.4
Prior Experience with English	Studied English in:						
	Home Country	22	68.8	1	20.0	23	62.2
	U.S.	2	6.3	2	40.0	4	10.8
	Home Country & U.S.	4	12.5	1	20.0	5	13.5
	Did not study English	2	6.3	1	20.0	3	8.1
	Unknown*	2	6.3	0	-	2	5.4

*Includes one soldier who did not complete the Student Background Questionnaire from which this information is drawn.

TABLE 2

Comparison of Selected Background and Language Factors of Soldiers

Variable	Response Category	Hispanics (n=32) n	Hispanics (n=32) %	Non-Hispanics (n=5) n	Non-Hispanics (n=5) %	Total (n=37) n	Total (n=37) %
English Language Skills: Entry ECLT	Score Range:						
	0-29	1	3.1	0	-	1	2.7
	30-49	16	50.0	1	20.0	17	46.0
	50-69	15	46.9	4	80.0	19	51.4
	Mean Score	47.3		56.2		48.5	
	Standard Deviation	12.3		7.4		12.1	
English Language Skills: Exit ECLT	Score Range:						
	0-29	1	3.1	0	-	1	2.7
	30-49	9	28.1	0	-	9	24.3
	50-69	14	43.8	3	60.0	17	46.0
	70+	7	21.9	2	40.0	9	24.3
	No exit score**	1	3.1	0	-	1	2.7
	Mean Score	53.6		66.6		55.4	
	Standard Deviation	15.1		6.7		15.0	
English Language Skills: FSI	Score Range:						
	0	2	6.3	0	-	2	5.4
	0+	2	6.3	0	-	2	5.4
	1	7	21.9	2	40.0	9	24.3
	1+	12	37.5	0	-	12	32.4
	2	7	21.9	1	20.00	8	21.6
	2+	2	6.3	2	40.00	4	10.8

** One student was dropped from the program before taking the exit-ECLT. The mean score for Hispanic students is calculated on an n of 31.

TABLE 2

Comparison of Selected Background and Language Factors of Soldiers

Variable	Response Category	Hispanics (n=32)		Non-Hispanics (n=5)		Total (n=37)	
		n	%	n	%	n	%
Years of English Study	None	2	6.3	1	20.0	3	8.1
	Less than 1 year	0	-	1	20.0	1	2.7
	1-5 years	4	12.5	1	20.0	5	13.5
	6-10 years	2	6.3	2	40.0	4	10.8
	11-15 years	16	50.0	0	-	16	43.2
	16 or more years	2	6.3	0	-	2	5.4
	Unknown *	6	18.8	0	-	6	16.1

*Includes one soldier who did not complete the Student Background Questionniare from which this information is drawn.

Most Recent Residence. There were 16 soldiers (43.2 percent) living in the United States immediately prior to joining the Army, approximately the same as the number who were living in Puerto Rico just prior to their enlistment (17 or 46.0 percent). Three soldiers, including one who did not complete the questionnaire (8.1 percent), did not respond to this item, and one soldier (2.7 percent) was living in Germany.

Educational Achievement. The soldiers were asked to respond to a question regarding how many years of school they had completed. The majority (21 soldiers or 56.8 percent) reported that they had graduated from high school. Eight soldiers claimed that they had received at least part of their education in the United States.

Prior Experience with English. Of primary interest was the extent to which the typical soldier enrolled in the BSEP-ESL program had been exposed to formal English instruction prior to enlisting in the Army. The soldiers participating in Phase I were asked to respond to this issue in two ways: first, to indicate where (and indeed, if) they had studied English previously; and second, how many years of study in English they had had. The following summarizes their responses: 23 soldiers (62.2 percent) had studied English in a public or private school in their home country; 4 (or 10.8 percent) had studied English in the United States; 5 (or 13.5 percent) reported that they had studied English both in their home county and in the United States; and only 3 soldiers (or 8.1 percent) reported no prior exposure to studying English as a second language. The median number of years reported for studying English was 11.

Language Skills. Information about the relative English proficiency levels of the 37 soldiers participating in Phase I was gathered in three ways: (a) by obtaining a record of the scores they had received on the ECLT administered by the Army upon their arrival at Fort Benning and (through follow-up) upon their exit from the ESL program; (b) by conducting a 5-10 minute oral interview with each soldier and scoring their language production on an ~SI scale of 0-5; and (c) requesting that each soldier rate his own ability to perform a variety of activities using English as the medium of communication. Data from each of these sources are presented below.

Entry ECLT Scores. The entry ECLT scores of the soldiers in our sample ranged from 25 to 66, with a mean score of 48.5 and a standard deviation of 12.1. The soldiers were not evenly distributed across low (0-29), middle (30-49), and high (50-69) ranges of entry ECLT scores. These score designations are in keeping with those used in Holland et al., (1984). Only one soldier fell into the low range; 17 soldiers (or 46.0 percent) scored in the middle, while 19 (51.4 percent) were high scorers.

Exit ECLT Scores. A follow-up was conducted after the site visit in order to gather information on the ECLT scores obtained by the soldiers as they exited the BSEP I-ESL program. None had exited after three weeks as a result of interim testing; therefore, all data reported here are based on six weeks participation in the ESL program. However, one student was dropped from the program before taking the post-ECLT. The mean score at posttest was 55.4 with a standard deviation of 15.0, representing a gain of

approximately 7 points on the average over the entry ECLT scores. Seventeen soldiers (46.0 percent) scored in the high range, 9 (24.3 percent) in the middle range and one (2.7 percent) in the low range. A total of 9 soldiers (or 24.3 percent) obtained scores in excess of 69. Of the 30 (or 81.1 percent) students whose ECLT score increased at posttest, gains ranged from 1 point to 24 points; the average increase was 9.7 points. On the other hand, 5 students (or 13.5 percent) scored lower upon exit from the program than upon entry, and one student's score remained the same.

FSI Scores. A 5-10 minute oral interview was conducted with each of the 37 soldiers to determine the range of their oral proficiency in English. This information was considered essential if a training study of learning strategies was to be developed that would correspond to the language abilities of the average BSEP I-ESL enrollee. Results of the FSI interviews indicate that the English proficiency of the soldiers ranged from the 0 level (no practical proficiency) to the 2+ level (limited working proficiency), with the median score falling between the 1 and 1+ levels. The mean FS score was slightly less than the 1+ level (elementary proficiency). The scoring pattern for the soldiers is depicted in Table 2.

The findings indicate that, while a small number of the soldiers had virtually no oral proficiency in English, most had sufficient, though limited, skills in English (a score of 1 or above) to satisfy the demands of a training study of learning strategies that incorporated speaking activities. Of particular interest here is the fact that, of the 10 new

soldiers who arrived on the last day of data collection and who had not been exposed to the Army's program prior to the FSI interview, 6 scored at the 1+ level.

Self-Reported Language Skills. The Student Background Questionnaire contained three items requesting the soldier to rate his ability to perform without a problem in a variety of activities in English. In the first question he was asked how well he could understand, speak, read and write English, using the following scale to rate each skill: "very well," "pretty well," "not very well," and "not at all." Results of this self-reported information are presented in Table 3. As exhibited, students rated their receptive skills of understanding and reading more highly than their productive skills of speaking and writing. In rating their ability to understand English, for example, the majority of the 36 soldiers (21, or 58.3 percent) felt they could do this "pretty well." Likewise, 47.2 percent felt that they could read "pretty well." The soldiers were mixed in their self-reported ability to speak English, with 50 percent indicating they spoke "pretty well" and 30.6 percent responding "not very well." A divided response was also evident for reporting the ability to write English: 27.8 percent responded with "pretty well", while more soldiers (36.1 percent) reported themselves under the category of "not very well."

The soldiers were then asked to respond in a "yes/no" fashion regarding their ability to speak English in order to perform specific activities without a problem. These results are also depicted in Table 3. As can be seen, the majority of soldiers felt they could speak English well enough to do most of the activities listed: buy things at the PX (80.6 percent), use the post office (63.9 percent), use the telephone (80.6 percent), order a

TABLE 3

Self-Reported Language Skills

Q. 15: How well can you do each of the following in English?

CATEGORY	Very Well		Pretty Well		Not Very Well		Not At All		Omit		TOTAL	
	N	%	N	%	N	%	N	%	N	%	N	%
a. Understand	6	16.7	21	58.3	8	22.2	0	-	1	2.8	36	100.0
b. Speak	2	5.6	18	50.0	11	30.6	2	5.6	3	8.3	36	100.0
c. Read	8	22.2	17	47.2	6	16.7	1	2.8	4	11.1	36	100.0
d. Write	6	16.7	10	27.8	13	36.1	2	5.6	5	13.9	36	100.0

Q. 16: Do you speak English well enough now to do these things without a problem?

CATEGORY	"YES"		"NO"		Omit		TOTAL	
	N	%	N	%	N	%	N	%
a. Buy things at the PX	29	80.6	6	16.7	1	2.8	36	100.0
b. Use the Post Office	23	63.9	9	25.0	4	11.1	36	100.0
c. Explain your problem at the dispensary	18	50.0	14	38.9	4	11.1	36	100.0
d. Use the telephone	29	80.6	3	8.3	4	11.1	36	100.0
e. Order a meal in the city	24	66.7	9	25.0	3	8.3	36	100.0
f. Ask questions in class	27	75.0	7	19.4	2	5.6	36	100.0

Q. 17: Do you understand English well enough to do these things without a problem?

CATEGORY	"YES"		"NO"		Omit		TOTAL	
	N	%	N	%	N	%	N	%
a. Understand the Sergeant when he or she talks to you in English	26	72.2	10	27.8	0	-	36	100.0
b. Understand the teacher in class	26	72.2	7	19.4	3	8.3	36	100.0

meal in the city (66.7 percent), and ask questions in class (75.0 percent). The only self-rated proficiency that was seriously low was to "explain your problem at the dispensary", where 50 percent responded that "yes", they could do this without a problem, and 38.9 percent responded with "no."

The third and final item on the Background Questionnaire relating to English proficiency asked the soldiers about their listening comprehension in relation to understanding the sergeant and to understanding the teacher in class. In both cases, the majority of respondents (72.2 percent) indicated that they could understand both the sergeant and the teacher when they spoke English. The results of this question are also presented in Table 3.

Language Use. Several items on the Background Questionnaire were designed to probe the extent to which the soldiers actually used English in a variety of situations, as well as what languages were usually spoken in their homes. Most soldiers (55.6 percent) indicated that they predominately spoke Spanish, although 38.9 responded that English was their usual language of communication. For 69.4 percent of the soldiers, the language spoken by people in their home was Spanish; interestingly, 22.2 percent revealed that English was also spoken in their home. The results of these analyses are exhibited in Table 4. Although the original questions instructed the soldiers to mark only one language, several students checked both English and Spanish; for this reason a response category entitled "Both" has been added and refers specifically to these two languages.

TABLE 4

Self-Reported Language Use

Language Used	Q. 11: What language do you usually speak now?		Q. 12: What language do people in your home usually speak?		Q. 13: What other language is spoken in your home?	
	N	%	N	%	N	%
English	14	38.9	2	5.6	8	22.2
Spanish	20	55.6	25	69.4	21	58.3
Both	2	5.6	5	13.9	2	5.6
Other	0	-	3	8.3	3	8.3
Omit	0	-	1	2.8	2	5.6
TOTAL	36	100.0	36	100.0	36	100.0

Q. 14: How often do you speak English now in each of the following situations?

Situations	Almost Always		Sometimes		Rarely		Never		Omit		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
a. At home	2	5.6	13	36.1	6	16.7	10	27.7	5	13.9	36	100.0
b. With your best friends in the Army	13	36.1	7	19.4	8	22.2	3	8.3	5	13.9	36	100.0
c. During Army training	19	52.8	5	13.9	2	5.6	4	11.1	6	16.7	36	100.0
d. In the barracks	13	36.1	9	25.0	4	11.1	6	16.7	4	11.1	36	100.0
e. In stores in the city	14	38.9	10	27.7	2	5.6	5	13.9	5	13.9	36	100.0
f. With other students in class	10	27.7	12	33.3	3	8.3	5	13.9	6	16.7	36	100.0

A separate item presented the soldiers with six different situations, requested the degree to which they spoke English in each of the situations, and indicated they were to respond in one of four categories: Almost always, sometimes, rarely, or never. These results are also presented in Table 4. As exhibited, the majority of soldiers (52.8 percent) "almost always" spoke English "during Army training", while the least frequent use of English seemed to occur at home. Most responses fell into the "almost always" and the "sometimes" categories.

Use of Learning Strategies

One of the three major purposes of Phase I was to explore the range and type of learning strategies used by foreign language background soldiers as they acquired skills in English. This question was directly addressed in two ways: (a) through the conduct of a lengthy interview with each teacher and soldier focusing on how the soldier approached a series of typical language learning tasks; and (b) the administration of the Learning Strategies Inventory, on which each soldier rated the extent to which he used learning strategies on specific language learning tasks. Data from each of these data collection approaches are discussed in detail below.

Student Interviews. As noted earlier, only the 27 soldiers already enrolled in the ESL program at the time of data collection participated in the in-depth interviews. These interviews were designed to elicit the strategies soldiers used in learning English. Strategies identified in the analysis were classified into three broad groupings as metacognitive, cognitive, or social meditating strategies consistent with definitions in

the literature (Brown & Palincsar, 1982). The frequency with which each strategy was mentioned across all interviews was then tallied. The method of tallying was as follows: When a soldier mentioned using the same strategy across a variety of language learning tasks (e.g., repetition with both pronunciation activities and vocabulary learning), the strategy was counted once for each task indicated. However, if a soldier mentioned using a particular strategy in several different ways for performing the same language task, the strategy was counted only once. The actual classification of the soldiers' responses into specific strategy types was based on the strategy definitions that had been developed and refined during similar data collection activities in the public schools (O'Malley et al., in press-a). The researchers in the military setting were the same individuals who collected data in the public schools, where they established an interjudge agreement of 79 percent for classifying the data from the interviews into strategy types. Table 5 presents a list of the definitions used for each strategy.

Presented in Tables 6 and 7 are the strategy frequency counts for all interviews, along with the number of soldiers who reported using each strategy. The first table contains tallies only of the metacognitive strategies mentioned by the soldiers, while the second pertains only to the use of cognitive and social mediating strategies. In both tables the strategies most frequently used are reported first, followed by those reported less frequently.

The soldiers were very cooperative and talked readily about their experiences in learning English, although the richness of the interviews varied considerably from one soldier to the next. As expected, most of the

TABLE 5

Learning Strategy Definitions

LEARNING STRATEGY	DESCRIPTION
A. Metacognitive Strategies	
Advance Organizers	Making a general but comprehensive preview of the organizing concept or principle in an anticipated learning activity.
Directed Attention	Deciding in advance to attend in general to a learning task and to ignore irrelevant distractors.
Selective Attention	Deciding in advance to attend to specific aspects of language input or situational details that will cue the retention of language input.
Self-management	Understanding the conditions that help one learn and arranging for the presence of those conditions.
Functional Planning	Planning for and rehearsing linguistic components necessary to carry out an upcoming language task.
Self-monitoring	Correcting one's speech for accuracy in pronunciation, grammar, vocabulary, or for appropriateness related to the setting or to the people who are present.
Delayed Production	Consciously deciding to postpone speaking to learn initially through listening comprehension.
Self-evaluation	Checking the outcomes of one's own language learning against an internal measure of completeness and accuracy.
Self-reinforcement	Arranging rewards for oneself when a language learning activity has been accomplished successfully.
B. Cognitive Strategies	
Repetition	Imitating a language model, including overt practice and silent rehearsal.
Resourcing	Using target language reference materials.
Directed Physical Response	Relating new information to physical actions, as with directives.
Translation	Using the first language as a base for understanding and/or producing the second language.
Grouping	Reordering or reclassifying and perhaps labeling the material to be learned based on common attributes.
Note-taking	Writing down the main idea, important points, outline, or summary of information presented orally or in writing.
Deduction	Consciously applying rules to produce or understand the second language.
Recombination	Constructing a meaningful sentence or larger language sequence by combining known elements *in a new way.*

Imagery	Relating new information to visual concepts in memory via familiar, easily retrievable visualizations, phrases, or locations.
Auditory Representation	Retention of the sound or similar sound for a word, phrase, or longer language sequence.
Key Word	Remembering a new word in the second language by (1) identifying a familiar word in the first language that sounds like or otherwise resembles the new word, and (2) generating easily recalled images of some relationship between the new word.
Contextualization	Placing a word or phrase in a meaningful language sequence.
Elaboration	Relating new information to other concepts in memory.
Transfer	Using previously acquired linguistic and/or conceptual knowledge to facilitate a new language learning task.
Inferencing	Using available information to guess meanings of new items, predict outcomes, or fill in missing information.
Question for Clarification	Asking a teacher or other native speaker for repetition, paraphrasing, explanation and/or examples.
C. SOCIAL MEDIATION	
Cooperation	Working with one or more peers to obtain feedback, pool information, or model a language activity.

TABLE 6

Frequency of Metacognitive Strategies

Strategy	Soldiers Reporting Use	Frequency of Reported Strategy Use	
		N	%
Self-management	21	44	26.7
Selective attention	21	37	22.4
Functional planning	20	33	20.0
Directed attention	14	25	15.2
Self-monitoring	8	9	5.5
Self-evaluation	7	9	5.5
Delayed production	4	4	2.4
Advance organizers	2	2	1.2
Self-reinforcement	2	2	1.2
TOTAL	27	165	100.0%

TABLE 7

Frequency of Cognitive and Social Mediating Strategies

Strategy Type	Soldiers Reporting Use	Reported Use	
		N	%
Cognitive			
Repetition	24	83	18.7
Question for Clarification	22	74	16.7
Translation	18	36	8.1
Note-taking	20	36	8.1
Inferencing	16	26	5.9
Imagery	17	25	5.6
Resourcing	14	25	5.6
Transfer	13	23	5.2
Auditory representation	11	16	3.6
Contexualization	10	13	2.9
Grouping	7	10	2.3
Directed physical response	7	7	1.6
Elaboration	7	7	1.6
Deduction	5	5	1.1
Recombination	-	0	-
Key word	-	0	-
Social Mediating			
Cooperation	19	58	13.1
TOTAL Cognitive and Social Mediating Strategies		444	100.0%

soldiers were able to describe the strategies they used in accomplishing a variety of tasks, and the range of strategies reported was extensive. Overall, the most frequently cited metacognitive strategies were self-management and selective attention, as shown in Table 6. The cognitive strategies receiving the greatest emphasis were repetition and questions for clarification, as indicated in Table 7. Neither of these two strategies involves transformation or active manipulation of the material to be learned. In general, the strategies that require the learner to be more active in approaching or processing the material (e.g., imagery, contextualization, key word, elaboration) were used less frequently than the more familiar strategies such as repetition and translation. Analyses of how certain student characteristics impact upon use of strategies are presented later in this report where the factors of most recent residence and language proficiency are examined as possible influences upon the strategies the soldiers elect to use.

Table 8 shows the total number of metacognitive and cognitive strategies per language activity. The "Other: General Approach" category at the bottom of Table 8 refers to an open-ended question asked at the conclusion of each interview: "What advice about learning English would you give a soldier who has just arrived to the ESL program?". It is clear that, for tasks such as vocabulary learning and listening comprehension (quite common to the Army ESL classroom), the soldiers were able to report the use of large numbers of strategies, although mostly cognitive. However, the soldiers had fewer cognitive strategies for attacking more complex tasks such as making an oral presentation and communicating socially or operationally. They seemed to rely more heavily upon the use of metacognitive strategies with more difficult tasks than with simple

TABLE 8

Frequency of Cognitive and Metacognitive Strategies by Learning Activity

Learning Activity	Reported Use of Metacognitive Strategies		Reported Use of Cognitive Strategies		TOTAL	
	N	%	N	%	N	%
Vocabulary Learning	7	4.2	84	18.9	91	14.9
Listening Comprehension	14	8.5	68	15.3	82	13.5
Pronunciation	27	16.4	51	11.5	78	12.8
Social Communication	28	17.0	46	10.4	74	12.2
Following Instructions	16	9.7	55	12.4	71	11.7
Operational Communication	23	13.9	45	10.1	68	11.2
Making an Oral Presentation	24	14.6	36	8.1	60	9.9
Oral Drills	10	6.1	43	9.7	53	8.7
Other: General Approach	16	9.7	16	3.6	32	5.3
TOTAL	165	100.0%	444	100.0%	609	100.0%

tasks such as vocabulary learning. In general, simple language tasks are those involving only one language skill at a time. More difficult tasks are those requiring integrative language skills - those that most closely approximate real language. Thus, metacognitive strategies were predominately used for social communication, pronunciation exercises, making an oral presentation, and operational communication. Table 9 presents the same language learning tasks in conjunction with the metacognitive and cognitive strategies most frequently paired by the soldiers with each task. This table reveals that the metacognitive strategies soldiers most frequently reported using with the more complex language activities listed above are: self-management for social communication, and functional planning both for making an oral presentation and for operational communication.

The tendency for strategies to be paired with certain language tasks, as shown in Table 9, substantiates prior interview findings acquired in public school settings. Vocabulary tasks, which form a large part of the BSEP student's language learning, were most often paired with the cognitive strategies of repetition and translation, a combination not reported frequently in relation to other language learning tasks. The metacognitive strategy of selective attention was often mentioned in conjunction with the cognitive strategy of repetition as being useful for mastering pronunciation tasks. For a task involving listening to a lecture, the preferred metacognitive strategy, selective attention, was linked with note-taking, inferencing, and question for clarification, all cognitive strategies. Functional planning was paired with repetition in order to facilitate making an oral presentation. Operational communication was felt

TABLE 9

Most Frequently Reported Metacognitve and Cognitive Strategies by Task

TASK	Most Frequently Reported Metacognitive Strategy	Most Frequently Reported Cognitive Strategy
Pronunciation	Selective Attention	Repetition
Oral Drills	-	Repetition
Vocabulary	-	Repetition
Following Instructions	-	Repetition/Translation
Social Communication	Self-management	Questions for Clarification
Operational Communication	Functional Planning	Cooperation Questions for Clarification
Listening	Selective Attention	Note-taking Inferencing Questions for Clarification
Speaking	Functional Planning	Repetition
Other	Self-management	-

to be enhanced by the use of functional planning with two cognitive strategies, cooperation and question for clarification. This latter strategy was mentioned frequently as being useful for social communication and following directions, but was not as frequently paired with tasks relating to pronunciation, oral drills or vocabulary. Interestingly, the advice of the soldiers to new language learners (the "other" category) was, overwhelmingly, to use self-management: 80 percent of the strategies mentioned as useful to the new language learner related to this strategy as a very important aspect in learning English.

The results shown in Tables 8 and 9 reveal a surprising amount of metacognitive strategy use and awareness; the soldiers apparently recognize that learning must be self-directed and self-managed in order to maximize effectiveness. However, their reported use of cognitive strategies shows heavy reliance upon unsophisticated strategies such as questioning for clarification, instead of a more complex strategy (e.g., inferencing). The implication of such an approach is that, while the soldiers recognize the importance of managing their own learning, they seem to rely upon sources external to themselves to provide meaning and comprehensibility to the language they encounter. Given their high motivation to learn English and their apparent awareness that learning can indeed be learner-initiated and maintained, soldiers in the BSEP-ESL program should benefit from a curriculum embedded with learning strategies. The introduction of more complex strategies into their approach to learning would provide them with the means to become more independent learners.

Teacher Interviews. Interviews were conducted with all four program teachers to discover the extent of their awareness of the learning

strategies used by their students in learning English. It was found that, with the exception of one teacher, the instructors were unaware of how their students learned, nor did they offer suggestions to the students about how to improve or accelerate their learning of English. However, every teacher felt that the students were considerably handicapped by being isolated from native English speaking soldiers, as well as by not being allowed time for study after leaving the ESL classroom. Apparently, the soldiers complained frequently that being grouped together encouraged exclusive use of Spanish for communication and made it impossible for them to practice their English. Further, the routine duties assigned to them, such as guarding the barracks, not only precluded any study time in the evenings, but also deprived them of the sleep they needed to maximize their attentiveness in the ESL classroom the following day. In other words, while the teachers could not specify ways in which the soldiers helped themselves to learn, it was apparent that both the teachers and students were aware of the procedures that limited the soldiers' acquisition of English.

The Learning Strategies Inventory (LSI). The LSI was used to gather self-reported information about the soldiers' use of fourteen different learning strategies across a variety of specific language learning activities. The analyses which follow present information on the frequency of reported use for the fourteen LSI strategies.

The LSI is concentrated upon use of the 14 strategies listed in Table 10. The figures appearing in the column headed "mean reported strategy use" correspond to the inventory's rating scale of 1 through 4, where a "1" indicates that the soldier "never" uses the strategy, a "2" indicates he

TABLE 10

Mean Strategy Use Reported on the Learning Strategies Inventory

Strategy	LSI Mean Reported Strategy Use*
Metacognitive Strategies	
Self-monitoring	3.2
Functional Planning	3.1
Selective Attention	3.0
Self-management	2.8
Self-evaluation	2.7
Total Metacognitive	3.0
Cognitive Strategies	
Elaboration	3.1
Inferencing	3.0
Contextualization	3.0
Notetaking	2.9
Auditory Representation	2.9
Imagery	2.8
Transfer	2.8
Grouping	2.7
Social Mediating Strategy	
Cooperation	2.7
Total, Cognitive and Social Mediating	2.9

* n=34

"sometimes" uses the strategy, a "3" indicates "usual" usage, and a "4" means that he "always" uses the strategy. Examination of the table reveals that on the average the soldiers reported using self-management and self-evaluation slightly less than on a "usual" basis, and self-monitoring, functional planning, and selective attention slightly more than on a "usual" basis. Overall, they reported that they "usually" used the five metacognitive strategies across a variety of language learning situations. The reported mean use of the nine cognitive strategies listed in the table was slightly less than "usual" usage; only inferencing, elaboration, and contextualization were reportedly used on a more than "usual" basis.

Influence of Student Characteristics on Strategy Use

Only general data analyses have been presented thus far regarding the soldiers' background characteristics, their language skills, and their reported use of learning strategies. These data will now be used to explore the relationship between language proficiency and recency of residence, and how each impacts upon reported strategy use. In many cases the number of subjects contributing data is small, so that the results may not be generalizable to a larger population of Army ESL enlistees.

The Relationship Between Recency of Residence and Language Proficiency

Residence in the target language country has been said to affect the proficiency a learner achieves in the target language (Carroll, 1967; Krashen, 1982; Murakami, 1980; Oller, Perkins, and Murakami, 1980). To examine the extent to which residency influenced proficiency in this study,

the soldiers' entry ECLT scores and their FSI scores were analyzed in relation to their ethnicity and most recent residence (hereafter referred to as MRR). These data are presented in Table 11.

If residency has a powerful impact on language proficiency, the ECLT scores of soldiers who resided most recently in the United States should fall largely above an ECLT score of 50, while soldiers who resided in Puerto Rico before joining the Army should predominately obtain scores below 50. As Table 11 shows, this appears to be true but only to a degree. While some effect can be seen (a larger proportion of those with MRR in Puerto Rico obtained scores below 50 than among those with MRR in the United States), the relationship is not sufficiently clear to conclude that recency of residence is the sole determining factor in a soldier's language proficiency. More effects of residence are evident when FSI scores are examined: Most soldiers whose MRR was the United States scored a half step above those whose MRR was Puerto Rico (a score of 1+ as opposed to a score of 1, respectively). However, many soldiers with Puerto Rican MRR scored quite high on this measure of oral proficiency (29.4 percent scoring at the 1+ level and 17.7 percent scoring at the 2 level or above). This shows that, although MRR exerts some influence upon language proficiency and contributes, in particular, to oral proficiency, the extent of the relationship is not totally clear. For example, MRR could not be presumed to serve as a surrogate for proficiency, nor could proficiency substitute for residency in further analyses of the data. MRR and language proficiency will be examined separately throughout the remainder of this analysis in order to obtain a clearer picture of the influence each has upon the gains achieved by the soldiers enrolled in the ESL program and on the strategies they report in learning English as a second language.

TABLE 11

Number and Percent of Students with Different Levels of English Proficiency for Hispanics and Non-Hispanics by Most Recent Residence

English Proficiency Variable	(n=37) Total		Hispanic Recent Residence								(n=5) Non-Hispanics	
			(n=12) U.S.		(n=17) P.R.		(n=3) Data N/A*		(n=32) Subtotal			
	N	%	N	%	N	%	N	%	N	%	N	%
ECLT < 50	18	48.7	6	50.0	11	64.7	0	-	17	53.1	1	20.0
ECLT ≥ 50	19	51.4	6	50.0	6	35.3	3	100.0	15	46.9	4	80.0
Total	37	100.0	12	100.0	17	100.0	3	100.0	32	100.0	5	100.0
FSI** = 0	2	5.4	0	-	2	11.8	0	-	2	6.3	0	-
= 0+	2	5.4	1	8.3	1	5.9	0	-	2	6.3	0	-
= 1	9	24.3	1	8.3	6	35.3	0	-	7	21.9	2	40.0
= 1+	12	32.4	5	41.7	5	29.4	2	66.7	12	37.5	0	-
= 2	8	21.6	4	33.3	2	11.8	1	33.3	7	21.9	1	20.0
= 2+	4	10.8	1	8.3	1	5.9	0	-	2	6.3	2	40.0
Total	37	100.0	12	100.0	17	100.0	3	100.0	32	100.0	5	100.0

* Residence data on three soldiers are not available due to their incomplete responses to this item.

** Unconverted FSI scale.

The Influence of Recency of Residence

Data in this section will be examined by dividing the Hispanic pool of subjects into groups by the most recent residence they claimed. Because the group of non-Hispanics is so small (n=5), it has not been separated by MRR; however, four of the five soldiers in the non-Hispanic group most recently resided in the United States.

Residency and Measures of English Language Skills. Table 12 exhibits the mean test performance of each residence group on the following measures of English language proficiency: the entry-ECLT, the exit-ECLT (both of which are measures of listening and reading skills), and the FSI (a measure of listening and speaking skills). At the bottom of the table, data on the self-reported skills of the soldiers have been included to contrast self-perceived proficiency with the rating obtained through objective measures. As data in the table indicate, the group with MRR in the United States outscored the group with MRR in Puerto Rico by more than five points on the entry ECLT, although the latter group closes this gap on the exit ECLT. On both tests, the non-Hispanic group considerably outscored the Hispanics.

To facilitate data analysis, scores on the FSI were converted to a scale of 0-5 to account for "plus" scores. (The key to this conversion and the definitions for each proficiency level are provided at the end of Appendix F.) The mean scores reported in Table 12 relate to the converted scale. There is evidence of the same disparity between U.S. and P.R. groups found in the entry ECLT scores. Given that the U.S. group presumably gained valuable exposure in listening and speaking the English language, their mean score of 3.3 on the FSI, as compared to the P.R. group's mean of 2.4,

TABLE 12

Mean and Standard Deviation on Language Indicator Data for Hispanics and Non-Hispanics By Most Recent Residence

Variable	(n=37) Total		Hispanic Recent Residence								(n=5) Non-Hispanics	
			(n=12) U.S.		(n=17) P.R.		(n=3) Data N/A		(n=32) Subtotal			
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Entry ECLT	48.5	12.1	49.6	12.0	44.0	12.3	56.3	1.3	47.3	12.3	56.2	7.4
Exit ECLT*	55.4	15.0	52.4	17.2	52.2	13.3	65.3	8.8	53.6	15.1	66.6	6.7
FSI converted score	2.9	1.3	3.3	1.0	2.4	1.3	3.3	.5	2.8	1.2	3.6	1.4
Self-Reported Proficiency**												
Listening	2.9	-	3.2	-	2.7	-	3.0	-	2.9	-	3.4	-
Speaking	2.6	-	2.9	-	2.4	-	2.5	-	2.6	-	3.0	-
Reading	3.1	-	3.0	-	3.3	-	2.0	-	3.1	-	3.0	-
Writing	2.8	-	2.9	-	2.8	-	2.0	-	2.8	-	2.6	-

* One soldier with MRR in Puerto Rico did not complete the ESL program. No exit ECLT score was available for him and the exit ECLT data presented in the Puerto Rican column are based on an n of 16. This adjusts the n in the subtotal column to 31 and the Total column to 36 for this variable.

** One soldier (MRR:P.R.) who did not complete the Student Background Questionnaire from which these data are drawn is not included in this analysis.

KEY TO SELF-REPORTED PROFICIENCY

How well can you (understand/speak/read/write) English?

1 - Not at all
2 - Not very well
3 - Pretty well
4 - Very well

is not particularly surprising. Scores for the MRR-U.S. group indicate that these soldiers were approximately one-half step higher in oral proficiency than their MRR-Puerto Rican counterparts, and approximately equal in proficiency to the non-Hispanic group.

When the scores of self-reported proficiency are examined, it is clear that soldiers with MRR in the United States rate their skills in listening and speaking more highly than do those in the P.R. group. Apparently, both groups have a sense of their relative language skill levels and reflect this in their self-rating. The accuracy with which each group perceives its skills in English is a separate question.

Table 13 exhibits Pearson correlations between self-reported and objectively measured proficiency for each residence group. Because the FSI is an interactive interview requiring proficiency in both listening and speaking, self-report scores in these two categories were standardized (z-scores) and combined to form a composite self-report score. This was in turn correlated with the converted FSI score to determine the accuracy of self-perceived proficiency. Results indicated that self-reported listening/speaking skills correlated with FSI scores to a greater extent (r=.54) overall than self-reported listening/reading skills correlated with the ECLT (r=.36). These results were consistent across all subgroups. The variation in correlations for some of the subgroups could be due to real differences in self-perceived accuracy but could also be due to differences in the number of cases on which data are reported. However, in examining the correlations between the ECLT and self-rated listening and reading skills, a sharp drop in accuracy of self-report compared to correlations with the FSI for the non-Hispanics and the U.S. groups is evident. Only

TABLE 13

Correlations Between Objective Measures of Proficiency and Self-Reported Proficiency for Hispanics and Non-Hispanics by Most Recent Residence

Objective Measure of Proficiency	(n=37) Total	Hispanic Recent Residence				(n=5) Non-Hispanics
		(n=12) U.S.	(n=17) P.R.	(n=3) Data N/A	(n=32) Subtotal	
FSI with Self-Reported Standardized Listening/Speaking	.54	.39	.49	.49	.43	.96
ECLT with Self-Reported Standardized Listening/Reading	.36	.27	.48	-.19	.33	.38

the group whose MRR was Puerto Rico maintained relative consistency in their accuracy of self-report between the FSI and ECLT data. The lack of exposure to English may force the soldiers in this group to be more modest in their self-appraisal and consequently more consistently accurate.

In summary, we can see that the soldiers whose MRR was the United States do indeed perform better on objective measures of language proficiency than those whose MRR was Puerto Rico. Supposedly these soldiers have had greater opportunity both to interact with native speakers of English and to receive meaningful input from them. This supports the notion of language acquisition taking place in a natural environment (Krashen, 1982). Likewise, they rate their skills more highly but tend to overinflate these assessments. Interestingly, soldiers in the non-Hispanic group performed best overall and seem to have a high degree of accuracy in perceiving at least their oral language skills.

Residency and English Language Study and Use. Given that soldiers with MRR in the U.S. scored more highly on objective measures of English language proficiency, information about years of English language study and how frequently they use English to communicate, as compared with the MRR-P.R. group, should contribute to knowledge about the influence of residency upon language proficiency. Listed below are the mean years of English language study and mean ratings of self-reported English language use for both residence groups.

	MRR-U.S.	MRR-P.R.
Years of Formal English Language Instruction	4.9	12.5
Self-reported English Language Use	3.2	2.5

Self-reported language use means are drawn from the Student Background Questionnaire (Appendix D, Question 14) and correspond to a scale of 1-4 (1=never, 2=almost never, 3=sometimes, and 4=almost always). Soldiers with MRR in the United States reported a higher frequency of English language use (3.2, or "sometimes") than the MRR-P.R. group, who reported "almost never" using English to communicate (2.5). Despite much fewer years of English language study (4.9 years, as compared to 12.5), the MRR-U.S. group apparently uses the English language more frequently than the MRR-P.R. group and obtains higher proficiency scores as well. This indicates that residency has a more powerful effect upon English language proficiency and use than does formal English instruction. This lends further support the notion of language acquisition in a natural environment (Krashen, 1982).

Residency and the Use of Learning Strategies. The next analyses presented are designed to determine how residency influences soldiers in their use of learning strategies. To address this issue, two sets of data were examined in relation to residency groups. These were: (a) strategies reported in the interviews, and (b) strategies reported on the LSI. Findings from both of these sources are discussed below.

Interview Data. Table 14 displays the frequency of metacognitive strategy use reported in the interviews conducted with the 20 Hispanics providing MRR data. The two groups do not vary a great deal in their reported use of five of the nine strategies. However, the MRR-U.S. group reports a slightly higher incidence of self-monitoring (7.0 percent of their total metacognitive strategy use compared to the MRR-P.R. group's 5.1 percent) and advance organizers (3.5 percent, while the P.R. group does not even mention use of this strategy). On the other hand, the P.R. group

TABLE 14

Number and Percent of Students Identifying Different Learning Strategies During Interviews by Most Recent Residence for Hispanics

Strategy	(n=9) U.S.			(n=11) P.R.			(n=20)* Total		
	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%
Metacognitive									
Self-management	7	14	24.6	10	20	25.6	17	34	25.2
Selective attention	7	13	22.8	9	17	21.8	16	30	22.2
Functional planning	7	10	17.5	9	15	19.2	16	25	18.5
Directed attention	6	10	17.5	7	14	18.0	13	24	17.8
Self-monitoring	3	4	7.0	4	4	5.1	7	8	5.9
Self-evaluation	2	2	3.5	4	5	6.4	6	7	5.2
Delayed production	1	1	1.8	2	2	2.6	3	3	2.2
Advance organizers	2	2	3.5	0	0	-	2	2	1.5
Self-reinforcement	1	1	1.8	1	1	1.3	2	2	1.5
Total, Metacognitive	9	57	100.0	11	78	100.0	20	135	100.0

* Only twenty-three Hispanic soldiers participated in the in-depth interviews. Three of these provided no data on their most recent residence. For this reason the n for the total group is 20.

reports greater use of self-evaluation and delayed production. This latter finding is in keeping with the delayed production expected in persons recently entering a foreign culture.

Table 15 presents each residency group's reported use of cognitive strategies, again drawn from the interviews. Here larger differences between the groups are apparent. The MRR-U.S. group reports a higher use of questioning for clarification, resourcing, cooperation and auditory representation. The fact that the first three of these strategies relate to accepting language assistance from external sources suggests that this group is somewhat more active in interacting with the English environment surrounding them. These soldiers have apparently had time to acclimate themselves and begin to use the resources available to them. Further, their greater report of auditory representation coincides with their higher metacognitive self-monitoring use, reinforcing the impression that they are further along in developing an internal English language model than the P.R. group.

The P.R. group, on the other hand, reports a higher reliance on repetition, inferencing, and transfer to learn English. Repetition involves little active manipulation of linguistic elements and is typically used by beginning language learners (O'Malley et al., in press-a). The fact that inferencing and transfer are the other two strategies on which they report greater use than the U.S. group suggests that the students are actively searching for meaning in the language they hear and are calling upon what they know in their own language and in English to comprehend new input.

TABLE 15

Number and Percent of Students Identifying Different Learning Strategies During Interviews by Most Recent Residence for Hispanics

Strategy	(n=9) U.S.			(n=11) P.R.			(n=20) Total		
	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%
Cognitive									
Repetition	8	19	13.5	11	43	19.2	19	62	17.0
Question for clarification	8	27	19.2	10	35	15.6	18	62	17.0
Translation	5	10	7.1	11	19	8.5	16	29	8.0
Note-taking	7	11	7.8	10	18	8.0	17	29	8.0
Inferencing	4	5	3.6	9	16	7.1	13	21	5.8
Imagery	6	7	5.0	7	13	5.8	13	20	5.5
Resourcing	6	13	9.2	6	9	4.0	12	22	6.0
Transfer	3	4	2.8	9	17	7.6	12	21	5.8
Auditory Representation	5	8	5.7	5	7	3.1	10	15	4.1
Contextualization	2	2	1.4	5	6	2.7	7	8	2.2
Grouping	2	3	2.1	4	6	2.7	6	9	2.5
DPR	2	2	1.4	4	4	1.8	6	6	1.6
Elaboration	2	2	1.4	4	4	1.8	6	6	1.6
Deduction	1	1	*	4	4	1.8	5	5	1.4
Recombination	0	0	-	0	0	-	0	0	-
Key Word	0	0	-	0	0	-	0	0	-
Social Mediating									
Cooperation	8	27	19.2	8	23	10.3	16	50	13.7
Total, Cognitive and Social Mediating	9	141	100.0	11	224	100.0	20	365	100.0

* Less than 1%

LSI Data. The responses of the soldiers to the Learning Strategies Inventory were analyzed to further examine the possible influence of MRR on strategy use. Table 16 displays the mean strategy use reported for the five metacognitive strategies included in the inventory. Again, the residence groups differ in their reported strategy use. For three of the five strategies, the U.S. group indicated a higher rate of usage than the P.R. group by .4 rating points or more. These strategies were: self-management, self-monitoring, and self-evaluation. With the exception of self-evaluation, this is fairly consistent with the findings from the interview data. The U.S. group claimed a higher use of self-monitoring in both the interviews and on the LSI, while the greater use of self-evaluation shifts from the P.R. group (in the interview) to the U.S. group (on the LSI). Overall, however, the U.S. group reports using metacognitive strategies more frequently than the P.R. group (3.1 or "usual" usage, as opposed to 2.8, or "sometimes" usage). The non-Hispanics report the highest use of metacognitive strategies overall, and obtain a group mean of several decimal points higher than either Hispanic residence group for use of self-management, functional planning, selective attention, and self-evaluation.

Table 17 exhibits group means for use of cognitive strategies as reported on the LSI. The U.S. group reports only a slightly higher use of strategies than the P.R. group, a difference which is not as pronounced as for metacognitive strategy use. As Table 17 indicates, the U.S. group claims greater use of the following four strategies by two-tenths of a point or more: imagery, auditory representation, transfer, and elaboration. Their higher reported use of auditory representation is consistent with the interview data findings. However, in the interview data, the U.S. group reported using transfer less frequently than the P.R.

TABLE 16

Mean Reported Strategy Use on the Learning Strategies Inventory for Hispanics and Non-Hispanics by Most Recent Residence

Strategy	(n=34)* Total All Groups	Hispanic Recent Residence				(n=5) Non-Hispanics
		(n=10) U.S.	(n=16) P.R.	(n=3) Data N/A	(n=29) Subtotal	
Metacognitive						
Self-management	2.8	3.1	2.6	2.7	2.8	3.3
Self-monitoring	3.2	3.5	3.1	3.1	3.2	2.9
Functional planning	3.1	3.0	3.1	3.7	3.1	3.3
Selective attention	3.0	3.0	2.9	3.2	3.0	3.3
Self-evaluation	2.7	2.8	2.4	3.1	2.6	3.1
Total, Metacognitive	3.0	3.1	2.8	3.2	2.9	3.2

* Two soldiers with MRR in the U.S. did not complete the LSI. The inventory of one soldier (MRR:P.R.) was excluded from data analysis due to a large number of item non-responses. Therefore, the total n for this analysis is 34.

KEY

1 - Never uses strategy
2 - Sometimes uses strategy
3 - Usually uses strategy
4 - Always uses strategy

TABLE 17

Mean Reported Strategy Use on the Learning Strategies Inventory for Hispanics and Non-Hispanics by Most Recent Residence

Strategy	(n=34)* Total All Groups	Hispanic Recent Residence				(n=5) Non-Hispanics
		(n=10) U.S.	(n=16) P.R.	(n=3) Data N/A	(n=29) Subtotal	
Cognitive						
Grouping	2.7	2.5	2.6	3.2	2.6	3.1
Imagery	2.8	2.9	2.7	3.0	2.8	2.7
Auditory Representation	2.9	3.1	2.7	3.3	2.9	2.8
Inferencing	3.0	2.9	3.2	2.7	3.1	2.7
Note-taking	2.9	2.7	3.0	2.6	2.9	3.2
Transfer	2.8	2.8	2.6	3.1	2.7	2.9
Elaboration	3.1	3.2	2.9	3.7	3.1	3.2
Contextualization	3.0	3.0	2.9	3.2	3.0	3.3
Social Mediating						
Cooperation	2.7	2.9	2.8	1.9	2.7	2.3
Total, Cognitive and Social Mediating	2.9	2.9	2.8	3.0	2.9	2.9

* Two soldiers with MRR in the U.S. did not complete the LSI. The inventory of one soldier (MRR: P.R.) was excluded from data analysis due to a large number of item non-responses. Therefore, the total n for this analysis is 34.

KEY

1 - Never uses strategy

2 - Sometimes uses strategy

3 - Usually uses strategy

4 - Always uses strategy

group, whereas the direction of the difference is reversed with the questionnaire data.

The P.R. group mean for inferencing is again higher by three tenths of a point than the mean obtained by the U.S. group. In addition, the P.R. group reported greater use of note-taking. These are the only two strategies they report using with greater frequency than the U.S. group.

The Influence of Language Proficiency

In a parallel study conducted with public school ESL students (O'Malley et al., in press-a), it was found that students at different English language proficiency levels reported using a similar pattern of learning strategies, with some interesting differences (i.e., intermediate students reported using more metacognitive strategies than students at the beginning level). It is possible to divide students in the present subject pool into two groups corresponding to their entry-level proficiency, based on the ECLT, and pursue the question of whether proficiency affects the strategies used by students as they learn another language.

An entry ECLT score of 50 was selected as the dividing point in grouping because this is the point which the Army uses to differentiate the target population (those scoring 50 and above on the ECLT) in the ESL course from the non-target population (below an ECLT score of 50) (Defense Language Institute English Language Center, 1983). The data will now be analyzed with this division in mind.

Language Proficiency and the Use of Strategies. Does language proficiency influence the strategies soldiers use to learn English? To answer this

question, data on strategy use, drawn from the interviews and the LSI, are examined below by contrasting the report of soldiers scoring below 50 on the entry ECLT with those scoring at the 50-point mark and above.

Interview Data. Table 18 presents the reported metacognitive strategy use for the two levels of language proficiency described above. As can be seen, there are several differences between the two groups. For example, when the strategies are ranked by frequency of report, a slightly different pattern emerges for each group, as depicted below. Numbers in parentheses indicate percentage of total strategy use.

Non-Target Group (Below 50)	Target Group (50 or above)
Self-management (25.0)	Self-management (27.6)
Directed attention (21.7)	Selective attention (23.8)
Selective attention (20.0)	Functional planning (21.9)
Functional planning (16.7)	Directed attention (11.4)

The group with the higher proficiency reported slightly greater use of self-management and selective attention, and a considerably higher use of functional planning (5.2 percent greater). Use of this latter strategy is rather complex because it implies an understanding of how language functions and may actually require more proficiency to utilize effectively. The only strategy in which the lower proficiency group dramatically exceeded the reported use of the higher proficiency group was directed attention (21.7 percent of their metacognitive strategy report in contrast to 11.4 percent for the latter group). This indicates that directed attention may be an important strategy for students of lower proficiency levels to use in learning English. While still valuable at higher levels of proficiency, the need to focus attention may be less due to the fact that more of the language is immediately comprehensible.

TABLE 18

Number and Percent of Students Identifying Different Learning Strategies During Interviews by Level of English Proficiency

Learning Strategy	ECLT < 50 (n=9)			ECLT ≥ 50 (n=18)			Total (n=27)		
	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%
Metacognitive									
Self-management	7	15	25.0	14	29	27.6	21	44	26.7
Selective attention	7	12	20.0	14	25	23.8	21	37	22.4
Functional planning	7	10	16.7	13	23	21.9	20	33	20.0
Directed attention	7	13	21.7	7	12	11.4	14	25	15.2
Self-monitoring	3	3	5.0	5	6	5.7	8	9	5.5
Self-evaluation	3	4	6.7	4	5	4.8	7	9	5.5
Delayed production	2	2	3.3	2	2	1.9	4	4	2.4
Advance organizers	0	0	-	2	2	1.9	2	2	1.2
Self-reinforcement	1	1	1.7	1	1	1.0	2	2	1.2
Total, Metacognitive	-	60	100.0	-	105	100.0	-	165	100.0

Overall, however, the two groups do not show a marked difference in their reported use of 7 of the 9 metacognitive strategies. Only the use of functional planning and directed attention differs between the groups to any meaningful degree.

Table 19 presents data on cognitive strategy use for each proficiency group. Again, there is fair consistency between the groups as to the strategies reported, with the exception of fairly large differences between the groups. The lower proficiency group reported a relatively higher use of inferencing (7.7 percent as contrasted with 4.7 percent), and the higher proficiency group reported more use of repetition (20.7 percent to the lower group's 15.4 percent). This latter difference is somewhat surprising, given that a preference for less complicated strategies such as repetition would be expected at the lower proficiency levels. There are some minor differences in the reported use of contextualization and elaboration in favor of the non-target group.

LSI Data. Table 20 presents mean metacognitive and cognitive strategy use as reported on the Learning Strategies Inventory. Included in this table are analyses below and above or equal to the median ECLT gain (the median gain from entry-ECLT to exit-ECLT for the total group of soldiers was 5.5 points). These analyses will be discussed after the "Total" columns for each group have been examined for differences in overall mean reported strategy use.

The higher proficiency group reported greater use of every metacognitive and cognitive strategy included in the LSI. For all but two strategies,

TABLE 19

Number and Percent of Students Identifying Different Learning Strategies During Interviews by Level of English Proficiency

Learning Strategy	ECLT < 50 (n=9)			ECLT ≥ 50 (n=18)			Total (n=27)		
	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%	Soldiers Reporting Use	Frequency of Strategy Use	%
Cognitive									
Repetition	8	26	15.4	16	57	20.7	24	83	18.7
Question for clarification	8	27	16.0	14	47	17.1	22	74	16.7
Translation	7	15	8.9	11	21	7.6	18	36	8.1
Note-taking	8	14	8.3	12	22	8.0	20	36	8.1
Inferencing	7	13	7.7	9	13	4.7	16	26	5.9
Imagery	6	10	5.9	11	15	5.5	17	25	5.6
Resourcing	4	8	4.7	10	17	6.2	14	25	5.6
Transfer	5	8	4.7	8	15	5.5	13	23	5.2
Auditory Representation	5	7	4.1	6	9	3.3	11	16	3.6
Contextualization	3	3	1.8	7	10	3.6	10	13	2.9
Grouping	3	4	2.4	4	6	2.2	7	10	2.3
DPR	4	4	2.4	3	3	1.1	7	7	1.6
Elaboration	1	1	1.0	6	6	2.2	7	7	1.6
Deduction	2	2	1.2	3	3	1.1	5	5	1.1
Recombination	-	-	-	-	-	-	-	-	-
Key Word	-	-	-	-	-	-	-	-	-
Social Mediating									
Cooperation	7	27	16.0	12	31	11.3	19	58	13.1
Total, Cognitive and Social Mediating	9	169	100.0	18	275	100.0	27	444	100.0

TABLE 20

Mean Reported Strategy Use on the Learning Strategies Inventory
by Level of English Proficiency and Pre- to Posttest Gain

LSI Strategy	Entry-ECLT < 50			Entry-ECLT ≥ 50		
	(n=7) < Mdn Gain*	(n=10) ≥ Mdn Gain*	(n=17) Total	(n=6) < Mdn Gain*	(n=10) ≥Mdn Gain*	(n=16) Total
Metacognitive						
Self-management	2.7	2.7	2.7	3.2	2.9	3.0
Self-monitoring	3.3	2.8	3.0	3.2	3.4	3.3
Functional planning	2.6	3.2	2.9	3.5	3.3	3.4
Selective attention	3.0	3.0	3.0	2.8	3.2	3.1
Self-evaluation	2.4	2.2	2.3	3.3	3.0	3.1
Total, Metacognitive	2.8	2.8	2.8	3.2	3.2	3.2
Cognitive						
Grouping	2.2	2.7	2.5	2.9	2.8	2.8
Imagery	2.6	2.8	2.7	2.9	2.9	2.9
Auditory Representation	2.4	2.9	2.7	3.5	2.8	3.0
Inferencing	2.7	3.2	3.0	2.8	3.1	3.0
Note-taking	2.9	2.7	2.8	2.7	3.2	3.0
Transfer	2.6	2.4	2.5	2.9	3.0	3.0
Elaboration	2.9	2.7	2.8	3.3	3.5	3.4
Contextualization	2.8	3.1	3.0	3.4	2.9	3.1
Social Mediating						
Cooperation	2.5	2.6	2.5	2.9	2.7	2.8
Total, Cognitive and Social Mediating	2.6	2.8	2.7	3.1	3.0	3.0

* Median gain refers to differences between entry-ECLT scores and exit-ECLT score. Median gain = 5.5

KEY

1 - Never uses strategy
2 - Sometimes uses strategy
3 - Usually uses strategy
4 - Always uses strategy

selective attention and inferencing, the difference in the means of the two groups equalled or exceeded two-tenths of a decimal point. This can be interpreted in the following way: overall, the higher proficiency group "usually" used the five metacognitive strategies listed in the table, while the lower proficiency group "sometimes" used them. The same is true for use of the nine cognitive strategies.

The greatest differences (four-tenths of a decimal point or more) between the groups are found in the reported use of functional planning, self-evaluation, transfer, and elaboration, all in favor of the higher proficiency group. It is possible that use of these strategies in the specific manner described on the LSI requires a certain level of English proficiency to be effective.

In examining metacognitive strategy use by ECLT gain, no particular pattern emerged. Looking at the lower proficiency group first, those who obtained a gain score less than the median reported greater use of self-monitoring and selfevaluation. Soldiers in the group with gain scores above the median reported more frequent use of functional planning, a strategy which could be seen to indicate a more sophisticated understanding and manipulation of language.

At this lower proficiency level, more differences between the two gain score groups can be seen in the use of cognitive strategies, where the group with greater gains showed much more frequent use for the following strategies: grouping, imagery, auditory representation, inferencing, and contextualization. These strategies indicate an active manipulation of

language. For the strategies used more frequently by the lower gain group (note-taking, transfer, and elaboration), the differences in mean reported use are much smaller.

Shifting attention to the gains achieved in the higher proficiency group, a different picture can be seen. Greatest use of metacognitive strategies is reported by the lower gain group, but not the same metacognitive strategies as reported by the corresponding gain group at the lower proficiency level (with the exception of self-evaluation). However, both gain groups at the higher proficiency level report the same total metacognitive strategy use (3.2).

Examining the mean reported use of cognitive strategies, the lower gain group of the higher proficiency level (entry-ECLT $\geq$ 50) reported a slightly greater use of strategies overall, and a much greater use of auditory representation and contextualization. The pattern described above for the lower proficiency group, where greater strategy use is among the persons with the highest final gain, does not seem to hold in the higher proficiency group. This may perhaps relate to the tendency of lower proficiency students to acquire language at a faster rate than students at a higher level of proficiency, and their need to rely more heavily on strategies to process the language they encounter.

In conclusion, the higher proficiency students reported a more frequent ("usual") use of both metacognitive and cognitive strategies than the lower proficiency students, who "sometimes" used the strategies.

Summary of Most Recent Residence, Language Proficiency, and Learning Strategies Data

Examination of the data by both initial proficiency level and most recent residence contributed essential information to what is known about learning English as a second language. MRR affects oral skills most directly and initial ECLT scores as well. This supports the notion that interactions in a natural environment result in acquisition of language. Although Hispanics with MRR in the U.S. reported receiving, on the average, slightly less than five years of formal English study, they score more highly on measures of English proficiency. Soldiers who have resided in the continental United States just prior to entering the Army would be likely to enter the services with greater language skills than those who resided most recently in Puerto Rico. However, the extent to which this results in a superior final performance in the BSEP/ESL program is in doubt. At least in terms of exit ECLT exit scores, soldiers whose MRR was P.R. were able to close the U.S. group's initial score advantage. At posttest, both groups attained equivalent mean scores (see Table 12).

In relation to what each line of investigation (MRR and language proficiency) contributes to current knowledge about use of learning strategies, the results of analyses are less clear. Table 21 displays a summary of differences in strategy use reported in both MRR and language proficiency analyses. Differences in LSI mean report within the categories of each analysis group (MRR and language proficiency) are highlighted when they equal or exceed 0.2 on a scale of 1 to 4; percentage differences in interview report within each analysis group are noted when they equal or exceed two percent. For example, data analysis by MRR revealed that the

TABLE 21

Summary of Learning Strategies Differentiating Student Subgroups, by English Proficiency, Most Recent Residence, Data Collection Method, and Strategy Type

Data Collection Method and Strategy Type	Most Recent Residence				Strategies where no* Difference in use between groups is reported	English Language Proficiency				Strategies where no* Difference in use between groups is reported
	U.S.		P.R.			ECLT < 50		ECLT > 50		
	Strategy	Reported Difference	Strategy	Reported Difference		Strategy	Reported Difference	Strategy	Reported Difference	
LSI: Metacognitive Strategies Difference ≥ .2	Self-management Self-monitoring Self-evaluation Total, Metacognitve	.5 .4 .4 .3			Functional planning Selective attention			Self-management Self-monitoring Functional planning Self-evaluation Total, Metacognitve	.3 .3 .5 .8 .4	Selective attention
LSI: Cognitive Strategies Difference ≥ .2	Imagery Auditory Repr. Transfer Elaboration	.2 .3 .2 .3	Interencing Notetaking	.3 .3	Grouping Contextualization Cooperation Total, Cognitive			Grouping Imagery Auditory Rep. Notetaking Transfer Elaboration Cooperation Total, Cognitive	.3 .2 .3 .2 .5 .6 .3 .3	Inferencing Contexualization
Interviews: Metacognitive Strategies Difference ≥ .2	Advance Organizers	3.5%	Self-evaluation	2.9%	Self-management Selective attention Functional planning Directed attention Self-monitoring Delayed production Self-reinforcement	Directed attention	10.3%	Self-monitoring Selective attention Functional planning	2.6% 3.8% 5.2%	Self-monitoring Self-evaluation Delayed production Advance Organizers Self-reinforcement
Interviews: Cognitive Difference ≥ .2	Question for Clarification Resourcing Auditory Rep.	3.6% 5.2% 2.6%	Repetition Inferencing Transfer	5.7% 3.5% 4.8%	Translation Notetaking Imagery Contexualization Grouping DPR Elaboration Deduction Keyword Recombination	Inferencing Cooperation	3.0 4.7%	Repetition	5.3%	Question for Clarification Translation Notetaking Imagery Resourcing Transfer Auditory Rep. Contexualization Grouping DPR Elaboration Deduction Recombination Key word

* Difference < .2 for LSI data and < 2.0 for Interview Data

MRR-U.S. group reported a mean LSI use of self-management that exceeded the mean use reported by the MRR-P.R. group by 0.5. Similarly, analysis by proficiency revealed that the higher proficiency group reported a mean use of self-management that exceeded the lower proficiency group's reported use by 0.3. These data are drawn from the figures presented in Tables 14-20. The purpose of displaying the data in this way is to determine the degree of strategy overlap between the categories of MRR and ECLT scores. Given that MRR exerts some effect upon initial English proficiency, it is of interest to examine the similarities and differences between strategy use reported by each residency group and determine if the relationship between MRR and language proficiency extends to strategy use.

As can be seen, data from the LSI impart the clearest information about strategy overlap between the categories. All of the LSI strategies reported as being more frequently used by the MRR-U.S. group are also more frequently used by soldiers who score above or equal to 50 on the entry ECLT. These strategies are: self-management, self-monitoring, self-evaluation, imagery, auditory representation, transfer and elaboration. While there is no perfect relationship between the categories (for example, the language proficiency category also discriminates between use of functional planning, grouping, notetaking, and cooperation in favor of those of higher proficiency), the overlap represents a balance between metacognitive and cognitive strategy use. This is in keeping with the hypothesis that the most effective combination of strategies would include both metacognitive and cognitive elements (O'Malley et al., in press-a; in press-b). If one assumes that soldiers in the MRR-U.S. group actually used the English language more than those in the P.R. group, and also assumes that data from the language proficiency groups suggest how strategy use

effects language proficiency, it could be expected that the similarities between these two categories (MRR and language proficiency) indicate that soldiers scoring above or equal to 50 on the ECLT achieved their higher proficiency in English by using the language more actively.

Data from the interviews do not provide as clearcut a picture that residency effects strategy use and that strategy use effects language proficiency. Most of the strategies reported in the interviews are listed in the "no difference" columns of Table 21, for both the MRR and language proficiency categories. Further, there is no consistency (overlap) between the strategies for which there is a difference reported within residency or proficiency categories. Examining the interview data in this way does little to contribute to knowledge about the relationship between MRR and language proficiency or a pattern of learning strategy use across categories.

The Relationship Between the Instruments Used in This Study

A variety of instruments were used in this study to collect data on the soldiers' language proficiency and use of learning strategies. An understanding of the interrelationships among these instruments is essential to gain perspective on the concurrent validity of the measures. Pearson correlations depicting these relationships are discussed below and presented in Table 22.

The ECLT and the FSI. The relationship between scores on the FSI and the ECLT was of interest in order to determine whether or not a measure of listening and reading such as the ECLT has a substantial relationship with

TABLE 22

Correlations Between Selected Instruments
Used in Assessing Proficiency and Strategy Use

Variable 1	Variable 2	r_{12}
Entry ELCT	FSI	.66
	LSI	.41
Exit ECLT	FSI	.50
	LSI	.39
FSI	LSI	.40
Interview:	LSI:	
Metacognitive	Metacognitive	.50
Cognitive	Cognitive	-.03

a measure of oral language skills. For the FSI and the entry-ECLT score, the correlation was r=.66; for the FSI and the exit-ECLT score, r=.50. This implies that the ECLT score provides at least some indication of a soldier's oral proficiency and could be used for general planning purposes in a future pilot test of learning strategies materials embedded in their present curriculum. For example, a soldier with a moderate ECLT score could be assumed to have the speaking proficiency needed to perform a variety of speaking tasks, should such tasks be included in a pilot test of learning strategies.

Language Proficiency and the LSI. The LSI was examined in relation to language skills on the ECLT and the FSI. In both cases, a moderate correlation was found. The correlation between the entry ECLT and the LSI was .41. The correlation between the exit ECLT and the LSI was .39, indicating that the soldiers who tended to score more highly on the ECLT also tended to score more highly on the LSI. The same was true for FSI scores, where the correlation with the LSI was .40. This would seem to imply that those who report higher uses of learning strategies tend to score more highly on measures of language proficiency.

Interviews and the LSI. Given that both the LSI and the interviews collect information through self-report, it was of interest to determine how consistently the use of learning strategies was reported by the soldiers on these two instruments. A correlation was determined focusing on each individual soldier's reported use of metacognitive strategies in the interview versus the LSI. The relationship was r=.50. The same correlation for total cognitive strategy use was r=-.03. Thus, each soldier was aware of and able to report with moderate consistency his

metacognitive strategy use, whether the data collection method specified for him the possible use of a particular strategy (the LSI), or whether he himself volunteered the information about the use of a strategy (interviews). Conversely, there was little consistency between interview and questionnaire data for the cognitive strategies. A likely explanation for this is that the majority of the nine cognitive strategies embedded in the LSI represent the more complex cognitive strategies (i.e., elaboration, contextualization, imagery, etc.). These more sophisticated strategies were not frequently reported in the interviews. This has implications for the feasibility of eliciting information about more complicated strategies by way of an interview method. Whereas the soldiers use the more sophisticated cognitive strategies, they find them difficult to describe unprompted and more readily focus their interview responses upon simpler, more commonly used strategies such as repetition and translation.

Description of the DLI/ESL Curriculum

The DLI/ESL curriculum uses military terminology and phrases drawn from Basic Training (BT) in introducing English language lexicon, structure, and use. According to the ESL Course Management Plan (1983), the curriculum has two major purposes:

- To prepare non-native speakers of English to receive Basic Training conducted in English; and
- To lay a functional English language foundation for the post-Basic Training career of non-native speakers.

The curriculum focuses on listening comprehension using military terminology and is based on an analysis of language performance requirements for soldiers in BT. Additional emphasis is placed on speaking to build a

foundation for later communication requirements, to give the soldier interim communicational skills, and to foster potential transfer between listening and speaking. Reading is included to lay a foundation for Advanced Individual Training (AIT), although there is a relatively small emphasis on writing. The target population for the curriculum consists of soldiers with an entry level ECLT of 50 or more to focus on enlistees who can benefit most from 180 hours of instruction. However, the curriculum consists of a series of lesson booklets divided into two blocks of instruction: Block I for soldiers with ECLT scores between 0 and 50, and Block II for soldiers with ECLT scores between 50 and 69. The prescribed course outline provides for a sampling of lesson booklets from Block I, but the major emphasis is on Block II.

Each block of instruction in the DLI/ESL curriculum is differentiated by military content as well as by difficulty level. For example, situations where military-appropriate language is presented in Block I are the military barracks, dining facility, troop medical clinic, post exchange, and dental clinic. Block II is built on 25 of the 40 BT tasks in the SMART book, a pocket manual which distills for each soldier the BT performance requirements. Task modules in Block II covering the 25 BT tasks are on first aid; nuclear, biological and chemical (NBC) defense; individual tactical training (ITT), weapons training, use of the M16A1 rifle; and grenades. Materials for the course consist of instructor texts, soldier lesson books, instructional tapes and supplementary films, videotapes, realia, and other training aides.

Teachers presenting the DLI/ESL course are assumed to be "qualified ESL instructors" (ESL Course Management Plan, 1983). An overall "map" is

presented indicating suggested lesson booklets for Block I and II, the day on which each should be presented, and the amount of time to spend on each. Directions on how to use the curriculum are presented in the Instructor Texts, which are annotated copies of the soldiers' texts. Directions in the Instructor Texts are conveyed principally through a "focus page," which gives the instructor information about the contents of the lesson, and "blurbs," which give the instructor guidance on how to present the lesson. Focus pages typically present (a) the lesson objectives; (b) names of drills for each objective; and (c) vocabulary for the lesson. Blurbs contain (a) the type of lesson; (b) whether or not the soldiers' texts used in the lesson are open or closed; (c) the kind of stimulus materials used to present the lesson -- visual, oral, written, or taped; (d) the type of soldier response required -- physical, oral, written, or none; (e) the type of participation expected -- choral, individual, paired choral (halves of the class responding), or paired individual; and (f) the number of objectives listed for the lesson on the focus page. The Instructor Texts also contain answers to exercises soldiers are required to complete, certain drills or exercises only the instructor sees, and a script of each instructional tape.

Observations of the DLI/ESL Curriculum in Use. As mentioned in Chapter II, several observations of ESL classes were conducted in order to familiarize the research team with the DLI curriculum, the general teaching approach of the ESL staff, and the degree and type of student participation. It was found that the DLI curriculum was focused largely on military vocabulary which the students were expected to master primarily through listening, reading and writing in their workbooks. Due to the mandated nature of the curriculum, teaching approaches of the staff could not vary a great deal.

The general pattern of class activities seemed to be the following: the teacher would present the vocabulary in the unit and each new word was repeated orally by the students, either in unison or individually. Once the teacher was satisfied that the students adequately understood the vocabulary, the students completed the exercises in their workbooks. This was done silently, while the teacher moved around the class, offering assistance as necessary. Then the class as a whole reviewed the booklet so that each student could check whether or not his responses were correct. Immediately following completion of book work, the teacher administered the lesson test. As the final activity for the lesson, the class as a whole listened to the relevant audio-visual tape (known as the TEC tape) for the subject under study. In one classroom where students were at different points in the curriculum, one group of students completed their workbook while a second group reviewed a TEC tape in an adjoining room. The activity of this latter group was generally unsupervised by the teacher, who spent the majority of the time working with the students completing the written exercises.

Observation of the group viewing the TEC tape revealed that the students did not take notes on the material presented, nor did they answer the self-evaluations question in the TEC tape in writing or orally, as recommended in the tape itself. Their general approach seemed to entail simply listening to the narrator of the tape explain the salient points of the topic in question. If the students did not understand either the language or the content of the tape, they could not rewind the tape to review a specific section. The machinery required that they listen to the

entire tape again from the beginning to end if they wished to clarify some point. They did, in fact, listen to the tape more than once on their own initiative. However, no student was observed asking another for information or clarification.

Only in one classroom observation were the soldiers required to perform a speaking exercise beyond simple repetition or sentence completion. The lesson under study related to the care and maintenance of the gas mask; the teacher required each student to demonstrate proper maintenance procedures, using as a prop the only gas mask available to the ESL program. As each soldier performed the steps involved in caring for the mask, he was required to state the action he was taking, using the appropriate English vocabulary. Generally, the soldiers were hesitant in producing the correct English phrases and relied extensively on prompting from the other soldiers or the teacher.

In conclusion, the observations found that the DLI curriculum was based heavily upon acquiring military vocabulary through listening, reading and writing. Little speaking was required beyond asking questions, repeating new words, and responding to the teachers' comprehension checks.

Discussion

Principal findings from this study indicated that a representative group of soldiers enrolled in the Army's BSEP I-ESL program identified and reported using a wide range of learning strategies to help them learn English.

Data gathered on BSEP-I ESL soldiers provided background information about their degree of previous exposure to English, self-reported language proficiencies, and the ways in which they used English in their everyday lives. Data were also available on an oral proficiency interview and the English Comprehension Level Test (ECLT). The following discussion reviews information on the background characteristics of the soldiers and then presents an overview of learning strategy uses by soldiers compared to secondary school students.

Results of the ECLT and Foreign Service Institute (FSI) score analyses indicated that most of the Army's students in BSEP I-ESL are able to function in English at a beginning or intermediate level and could benefit from training to improve their language skills. Results of the ECLT given prior to entrance into the ESL program indicated that higher scores were obtained by Hispanic soldiers with most recent residence (MRR) in the United States rather than in Puerto Rico. Prior residence appeared to be more highly associated with test scores than was the actual number of years of study of the English language. Apparently, the years of English instruction they received made less difference in later proficiency than did their residence in an English-speaking environment. Students gained on the average about 7 points on the ECLT between pre- and posttesting, but only about one quarter of the students in the ESL course managed to reach the criterion score of 70 or above on the ECLT posttest. Students were also administered the Foreign Service Institute (FSI) oral interview in order to determine their current level of English proficiency. Analyses of the FSI scores indicated that most students had elementary proficiency in English (between 1 and 1+ on the FSI scale), and that those who had been

living in the United States immediately before enlistment were more proficient than those whose residence was Puerto Rico. Correlations between the FSI oral interview and the ECLT, which does not have a speaking component, were in the mid .60s, high enough to warrant the use of ECLT scores as a preliminary guideline for developing speaking tasks incorporating learning strategy instructions within the DLI curriculum.

Residency findings related to ECLT and FSI scores directly support other studies focusing on the influence of residency on language proficiency (Carroll, 1967; Murakami, 1980; Oller et al., 1980), as well as current theories regarding acquisition of language in a natural environment, as opposed to learning through formal instruction (Krashen, 1982). However, regardless of the superior performance of the MRR-U.S. soldiers on the entry ECLT and the FSI measure, the MRR-P.R. group was able to close the score gap by the end of the program and exit ECLT scores were virtually equivalent for both residency groups. This suggests that, while most recent residence exerts an effect upon proficiency, it should not be used extensively to predict soldiers' performance in the ESL program, nor their potential for success in the Army.

Another aspect of student's English proficiency was revealed through responses to questions on the Student Background Questionnaire. According to the responses on self-reported language skills, it appears that additional training in speaking, in particular operational communication essential to carrying out military tasks and seeking help with health problems, would be beneficial for limited English proficient soldiers. Self-reported language skills showed that this group of soldiers in general felt themselves to be more proficient in the receptive skills of

understanding and reading and less proficient in the productive skills of speaking and writing English. Most felt they could understand what was said to them in English by their teacher and their sergeant, and were able to carry on simple operational communication interactions, such as shopping, using the telephone, and ordering a meal. However, most soldiers were not so confident about their ability to successfully engage in a more complex and potentially more critical operational communication encounter such as explaining a medical problem at the dispensary.

Provision of opportunities for soldiers to interact in English with English speakers outside the ESL classroom to a greater degree than at present would be helpful in developing both social and operational communication skills. The items on the Student Background Questionnaire concerning language use indicated that most soldiers in the group spoke Spanish most of the time, although about a third of them indicated that they usually spoke English. About a fifth of the soldiers in the group reported that English was used at home in addition to Spanish.

An important objective in learning strategy training would be the linking of metacognitive and cognitive strategies for each language learning task. Of the 606 strategies reported in the interviews, 27 percent were metacognitive, 63 percent were cognitive, and 10 percent were the social mediation strategy of cooperation. This distribution parallels that found in a similar study of high school ESL students (O'Malley, Russo, Chamot, Stewner-Manzanares, & Kupper, in press-a) in which 30 percent of reported strategies were metacognitive, 62 percent were cognitive, and 8 percent were social mediation. These findings indicate that without instruction in strategy use, students tend to use many more cognitive than metacognitive

strategies. Studies of learning strategies in cognitive psychology indicate that students need to pair metacognitive strategies with their cognitive strategies for most effective and transferable learning (Brown and Palincsar, 1982).

The results confirmed prior findings that students untutored in the application of learning strategies in second language learning use cognitive strategies requiring less transformation or manipulation of the material to be learned. This suggests that instruction in use of more efficient learning strategies would be beneficial. The most frequently used metacognitive strategies were self-management, selective attention, functional planning, and directed attention. In the high school study these were also the preferred metacognitive strategies. The most frequently used cognitive strategies were repetition, questions for clarification, translation, and note-taking. These also match the preferred cognitive strategies of the high school ESL students, with the exception of translation, which was fifth in order of frequency. For these latter students the fourth ranked strategy was imagery, which was the fifth ranked strategy for the soldiers interviewed.

Strategies were used most frequently for learning vocabulary and for listening comprehension by the students in this study. These learning activities also received the most reported strategy use for the high school study, though the order was reversed. An interesting difference between the two studies was that high school students ranked oral drills fourth in frequency of strategy use, whereas soldiers ranked it eighth. This difference may reflect different curricular emphases or teaching approaches between the two instructional environments.

The similarity in strategy range and frequency of use between the military and high school groups indicates that the results of research on learning strategies conducted on high school populations learning English as a second language are relevant for ESL students at military installations. ESL soldiers were aware of the value and need for self-direction in learning English, but realized that they could profit from instruction in the most effective combination of metacognitive and cognitive strategies for each type of learning activity. Many students seemed to be aware of the importance of using metacognitive strategies in attending to input in English, in managing their opportunities for interaction, and in planning for operational communication and oral presentations. Most students, however, relied on less complex cognitive strategies for the majority of language learning tasks.

In comparing strategy use reported in the LSI with that derived from the interviews, a substantial correlation for metacognitive strategy use was found when individual scores on both data collection methods were compared. Individual comparison of cognitive strategy use showed a zero correlation, indicating that soldiers were not at all consistent in their report between the LSI and the interviews. This disparity is not surprising since the LSI elicited information about more complex cognitive strategies only rather than the simpler ones that soldiers tended to volunteer on their own when interviewed. Students may not be as adept at verbalizing more complex strategies as they are at recognizing descriptions of such strategies applied to a language learning task.

Learning strategy use seems to be effected by both most recent residence and language proficiency. The MRR-U.S. group reported a higher use of strategies related to accepting language assistance from external sources, such as questioning for clarification, resourcing and cooperation. This group also reported greater self-monitoring and auditory representation, suggesting that they are further along with developing an internal English language model than the P.R. group. This latter group reported a greater dependence upon less complex strategies such as repetition, but also upon transfer and inferencing, two strategies that suggest they are actively searching for meaning in the language they hear and are calling upon what they know in their own language and in English to comprehend new input. The fact that the MRR-U.S. group consistently reported more metacognitive and cognitive strategy use than their P.R. counterparts suggests that direct exposure to the English language within an English speaking environment results in an increase in strategy use as well as a widening of the range of strategy use. It would be of interest to investigate the P.R. group's use of strategies at the end of the ESL program in order to see how (or if) the strategies they reported using have changed or increased due to the immediacy of their language needs.

Reported strategy use varied by initial language proficiency as well. Soldiers of lower proficiency reported a much higher incidence of directed attention than students of higher proficiency, while this latter group exceeded the former in use of the linguistically sophisticated functional planning. Apparently, as proficiency increases, the need to focus attention decreases. However, the use of other strategies appears to be substituted: the higher proficiency group reported a higher use of every

metacognitive and cognitive strategy included in the LSI. Overall, they claimed to "usually" use the 14 LSI strategies, while the lower proficiency group "sometimes" used them. This implies that either a greater range of strategy use depends upon some proficiency in the target language, or that as soldiers discover and develop new ways of interacting with the language, they develop greater proficiency.

The data on learning strategy use also suggest that the most effective combination of strategies would include both metacognitive and cognitive elements. This is supported by the fact that higher proficiency students and the MRR-U.S. soldiers report a greater range and frequency of strategy use that includes both elements. This has direct implications for the design of a future pilot training study to instruct soldiers in the use of learning strategies.

Potential for Applying Learning Strategies to the DLI/ESL Curriculum. Results of Phase I data collection conducted in a military setting indicate that embedding learning strategies training into the present DLI/ESL curriculum is both possible and highly promising. Particularly encouraging is the fact that the soldiers who participated in Phase I seemed to be aware that they used strategies to assist or direct their learning, and that they were able to describe in some detail their approaches to a variety of language learning tasks. The richness of their metacognitive strategy use implies that the soldiers already have the ability to examine the nature of learning a language, as well as the self-awareness to manage themselves as language learners.

What seems to be lacking on their part is a systematic approach to strategy application. This is apparent in their inability to describe in

the interviews the use of the more complex strategies they reported using in the LSI, such as inferencing. It would seem that the soldiers make sporadic use of the more complex strategies, while preferring to rely upon simpler, less cognitively demanding strategies such as repetition, questioning for clarification, and translation. Retraining the soldiers in their use of strategies could take many different forms. For example, they could be taught to apply several of these simpler strategies in a more sophisticated fashion, thus capitalizing on a learning structure already in place. Questioning for clarification and cooperation are two likely candidates. While they use both strategies heavily, the soldiers do not vary the <u>way</u> in which they use them, and frequently cooperate with their peers in Spanish, or question the teacher using poorly constructed English phrases where standard phrases are available. There is little doubt that the soldiers could be trained to rely upon these strategies in a more systematic way, such as extending cooperation with a friend beyond a few quick words in Spanish aimed at grabbing meaning as swiftly as possible, or asking questions of native speakers in well-phrased English. As the strategies are already familiar to the soldiers, no major retraining should be needed to raise the quality of their usage.

Another possible approach to strategy training would be to focus on the more complicated strategies, such as inferencing, transfer, or contextualization. While the soldiers report using these strategies, they apparently do not have a systematic approach to their application, as seen in the interview data. These are skills that can be improved through training, conscious awareness and practice. The DLI/ESL curriculum lends itself well to developing inferencing skills, because of the large amounts of unfamiliar material to be learned and the limited time available for

study. Furthermore, when the soldier goes on to Basic Training, he will encounter a learning situation even more intensive than in the ESL program. Thus, inferencing skills could prove extremely valuable not just in mastering the DLI curriculum but also in future situations in the Army.

Of particular importance to both the Army and the soldiers is the improvement of the soldiers' oral proficiency in English. The program's present lack of emphasis on speaking is an element of concern to the soldiers. Therefore, any learning strategies training to be conducted in the future would be likely to focus many activities on speaking. The ECLT and FSI scores are sufficiently high to assume that the majority of soldiers in the ESL program could satisfy the requirements of elementary speaking activities and benefit from training in strategies to improve their speaking skills. Given the demands of Army life and the soldiers' need to communicate effectively and efficiently with other personnel, it is very important that the learning strategies selected for training provide the soldiers with a means of performing speaking tasks across the entire range of their military duties. The most likely candidate for strategy training for speaking, therefore, would be functional planning, which would equip the soldiers with a strategy they could transfer across a variety of speaking tasks. This strategy is quite sophisticated and requires a functional analysis of the task to be accomplished. The fact that the majority of soldiers in the ESL program have graduated from high school or had some university training would imply that they have sufficient education to understand the concepts involved in using this metacognitive strategy.

The question remains as to how to embed the strategies into the DLI/ESL curriculum without fundamentally altering the content or the materials. The one classroom observation where the soldiers were required to perform the steps involved in caring for and maintaining a gas mask was enlightening, for the soldiers learned the vocabulary through focusing on the content, rather than through written exercises. Examination of the curriculum reveals that the content lends itself well to such a presentation, where the teacher demonstrates the activity under study, then requires the students to carry out the activity on their own. This approach corresponds nicely to the strategy called Directed Physical Response, and might prove suitable for a pilot study of learning strategies training.

One of the goals of Phase I was to determine which lessons in the DLI/ESL curriculum would be appropriate for learning strategies training. After analysis of each booklet in the curriculum, it appears that all lessons would be appropriate for an approach that presents strategy as part of instruction. The procedures and constraints of the program, however, are of greater import in making such a determination than the suitability of the curriculum at any one point in time. Certain factors must be taken into consideration in selecting particular lessons on which to focus the strategy training. For example, students are permitted to take the ECLT at the end of their third week in the program and exit if they score 70 points or above. Therefore, it would be important to ensure that no one exited the program during a pilot test of strategy training. Further, the lessons in the curriculum focusing on military topics such as weapons training would be difficult for the research team to teach, given their lack of

familiarity with the content. More appropriate lessons might be Block I information, or some of the lessons focusing on First Aid. These latter subjects could also make use of more accessible props (such as bandages and splints), as opposed to the lessons on weapons, where any demonstrations would require the acquisition and handling of intricate realia (e.g., rifles, grenades, claymore mines). Therefore, after careful review of the DLI/ESL curriculum, it would seem that the lessons most suitable for use in implementing a strategy training study would meet the following criteria: (a) fall before the three weeks mark; (b) pertain to topics found in Block I or early Block II; and (c) lend themselves to the use of easily obtained realia such as in the First Aid lessons.

REFERENCES

Atkinson, R.C., & Raugh, M.R. (1975). An application of the mnemonic keyword method to the acquisition of Russian vocabulary. Journal of Experimental Psychology: Human Learning and Memory, 104, 126-133.

Brown, A.L., Bransford, J.D., Ferrara, R.A., & Campione, J.C. (1983). Learning, remembering, and understanding. In J.H. Flavell & E.M. Markham (Eds.), Carmichael's manual of child psychology, Vol. I. New York: Wiley.

Brown, A.L., & Palincsar, A.S. (1982). Inducing strategic learning from texts by means of informed, self-control training. Topics in learning and learning disabilities, 2(1), 1-17.

Carroll, J. (1967). Foreign language proficiency levels attained by language majors near graduation from college. Foreign Language Annals 1, 131-151.

Cohen, A.D., & Aphek, E. (1980). Retention of second language vocabulary over time: Investigating the role of mnemonic associations. System, 8, 221-235.

Cohen, A.D., & Aphek, E. (1981). Easifying second language learning. Studies in Second Language Acquisition, 3(2), 221-236.

Dansereau, D.F. Learning strategy research. (in press). In J. Segal, S. Chipman, & R. Glaser (Eds.), Thinking and learning skills: Relating learning to basic research. Vol. 1. Hillsdale, N.J.: Erlbaum.

Defense Language Institute English Language Center. (1983). ESL Course Management Plan, Lackland Air Force Base, Texas.

Holland, V.M., Rosenbaum, H., Stoddart, S., Redish, J., Harman. J., & Oxford-Carpenter, R. (1984). English as a second language programs in Basic Skills Education Program I (Research Report 1359). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Krashen, S.D. (1982). Principles and practice in second language acquisition. Elmsford, N.Y.: Pergamon Press.

Levin, J.R. (in press). Educational applications of mnemonic pictures. In A.A. Sheikt (Ed.), Imagery and the educational process. Farmingdale, N.Y.: Baywood.

Murakami, M. (1980). Behavioral and attitudinal correlates of progress in ESL by native speakers of Japanese. In J. Oller and K. Perkins (Eds.), Research in language testing (pp. 227-232). Rowley, MA: Newbury House.

Naiman, N., Frohlich, M., Stern, H.H., & Todesco, A. (1978). The good language learner. Toronto: Modern Language Center, Ontario Institute for Studies in English.

Oller, J., Perkins, K., and Murakami, M. (1980). Seven types of learner variables in relation to ESL learning. In J. Oller and K. Perkins (Eds.), Research in language testing (pp. 233-240). Rowley, MA: Newbury House.

O'Malley, J.M., Russo, R.P., Chamot, A.U., Stewner-Manzanares, G., & Kupper, L. (in press-a). Learning strategies used by high school students learning English as a second language. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

O'Malley, J.M., Russo, R.P., Chamot, A.U., Stewner-Manzanares, G., & Kupper, L. (in press-b). The effects of learning strategies training on the development of skills in English as a second language. Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Oxford-Carpenter, R., Harman, J., & Redish, J. (1983). English-as-a-second-language programs in the Army (Research Report 1354). Alexandria, Virginia: U.S. Army Research Institute for the Behavioral and Social Sciences.

Pressley, M., Levin, J.R., Nakamura, G.V., Hope, D.J., Bisbo, J.G., & Toye, A.R. (1980). The keyword method of foreign vocabulary learning: An investigation of its generalizability. Journal of Applied Psychology, 65, 635-642.

Rigney, J.W. (1978). Learning strategies: A theoretical perspective. In H.F. O'Neil (Ed.), Learning strategies. New York: Academic Press.

Rubin, J. (1975). What the "good language learner" can teach us. TESOL Quarterly, 9(1), 41-51.

Salas, E., Kincaid, J.P., & Ashcroft, N. (1980). An assessment of Hispanic recruits who speak English as a second language. Orlando, FL: Training Analysis and Evaluation Group.

Segal, J., Chipman, S., & Glaser, R. (Eds.). (in press). Thinking and learning skills: Relating learning to basic research. Vol. 1. Hillsdale, N.J.: Erlbaum.

Weinstein, C.E., & Underwood, V.L. (in press). Learning strategies: The how of learning. In J. Segal, S. Chipman, & R. Glaser (Eds.), Thinking and learning skills: Relating learning to basic research. Vol. 1. Hillsdale, N.J.: Erlbaum.

Wittrock, M.C., & Kelly, L.R. (1984, April). Teaching reading comprehension to adults in basic skills courses. Paper presented at the annual meetings of the American Educational Research Association, New Orleans.

Wittrock, M.C., Marks, C.B., & Doctorow, M.J. (1975). Reading as a generative process. Journal of Educational Psychology, 67, 484-489.

APPENDIX A

Student Interview Guide

DATA REQUIRED BY THE PRIVACY ACT OF 1974
(5 U.S.C. 552a)

TITLE OF FORM	PRESCRIBING DIRECTIVE
STUDENT INTERVIEW GUIDE	AR 70-1

1. AUTHORITY

10 USC Sec 4503

2. PRINCIPAL PURPOSE(S)

The data collected with the attached form are to be used for research purposes only.

3. ROUTINE USES

This is an experimental personnel data collection form developed by the U.S. Army Research Institute for the Behavioral and Social Sciences pursuant to its research mission as prescribed in AR 70-1. When identifiers (name or Social Security Number) are requested, they are to be used for research administration and statistical control purposes only. Full confidentiality of the responses will be maintained in the processing of these data.

4. MANDATORY OR VOLUNTARY DISCLOSURE AND EFFECT ON INDIVIDUAL NOT PROVIDING INFORMATION

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LEARNING STRATEGIES FOR SPEAKING AND UNDERSTANDING ENGLISH

Student Interview Guide

(READ OR PARAPHRASE.) My name is _____ and I work with InterAmerica Research Associates. We want to talk to students in English as a Second language classes to find out how you learn English. We want to know how you study and practice learning English. We also want to know any tricks or special things you do that make learning English easier, or that help you remember what you learn.

We plan to make a list of these special things you do to learn English and share them with other students like yourselves. We hope that this will help them in learning to understand and speak English. We also plan to share these special things with teachers so they will understand how students like you go about learning to understand and speak English. WE WON'T TELL ANYONE YOUR NAME OR WHO SAID WHAT. YOUR PARTICIPATION IS STRICTLY VOLUNTARY.

First, can you tell me what special things or tricks you use to help you learn English? Now I am going to name some things that students learning English usually have to do. Then I will ask you how you learn these things, and if there is anything special you do to learn them. There are no right or wrong answers. I am interested in knowing what you do in these situations.

Do you have any questions?

ACTIVITY ONE

Pronunciation Exercise

Your teacher wants you to pronounce several words or sentences. The teacher says them aloud and you have to repeat them. You must pronounce the words or sentences as correctly as possible.

My questions are:

1) Do you have this kind of activity in your class?

2) Do you do this outside of class?

3) What special things do you do to copy the teacher's pronunciation? (How do you remember the pronunciation?)

ACTIVITY TWO

Oral Drills/Exercises

Your teacher asks you to: (Pick the appropriate example)

1) Repeat a sentence

2) Memorize a dialogue

3) Change tenses from present to past: (Teacher: We go home at two.
Student: We went home at two.)

4) Change positive to negative: (Teacher: Mary studies every day.
Student: Mary does not study every day.)

5) Answer questions: (Teacher: What color is your shirt?
Student: My shirt is blue.)

6) Do a chain drill: (Teacher: What sport do you like?
Student 1: I like swimming, what sport do you like?
Student 2: I like ____. etc.)

My questions are:

1) Do you do this in your class?

2) How do you make sure that you remember what to say?

3) Do you use any special techniques or ways to help you understand the sentences?

ACTIVITY THREE

Vocabulary Learning

You are asked to learn the meanings of ten new words in English. Your teacher says the words and tells you what they mean or shows you a picture.

My questions are:

1) Do you do this in your class?

2) Do you have any special tricks to help you learn and remember new vocabulary words?

ACTIVITY FIVE

- Communication in a Social Situation

Let's say that you would like to teach your students how to communicate in a social situation. You might ask them to role play meeting someone for the first time or going to town with a group of all English speakers. Or you might actually see one of your students trying to communicate with a native English speaker in the hall, on the grounds outside, or on a social occasion.

My questions are:

1) Is this an activity which is likely to take place in your classroom? Or in which your students are likely to engage?

2) If so, what suggestions have you given your students as to what to pay attention to? Have you ever offered tehm tips as to how to comprehend what is being said and how to learn how to use English is a social situation?

3) Have you ever seen students of yours use any particular tricks or methods to help themselves communicate in a social situation?

4) What are some examples of this type of activity in your classroom? What is the content? What type of materials? How do you teach it?

5) In what kinds of situations outside your classroom do students have to use social communications skills?

ACTIVITY FOUR

Instructions/Directives

Perhaps you have planned a class on giving and following instructions. You give oral directions on how to perform a task. The student is now expected to comprehend and retain the meaning of each separate instruction in the sequence, and then perform the task correctly by following the directions. (Probe with examples of CPR, first aid, and maintenance of an M-16, or using equipment in the language lab if the idea fails to communicate.)

My questions are:

1) Is following directions an activity that takes place in your classroom?

2) Have you ever offered your students suggestions on how they can best approach this type of activity?

3) Have you ever observed strategies that students have used to help themselves comprehend the instructions they have been given and then perform the task correctly?

4) What are some examples of this type of activity in your classroom? What is the content? What types of materials? How do you teach it?

ACTIVITY THREE

Vocabulary Learning

You have ten new words that you have not previously introduced to your students, presented orally as a list or in sentences. You would like them to learn the meanings of these ten words and be able to recall the definitions.

My questions are:

1) Do you conduct this type of activity in your classroom? If not, how do your students learn vocabulary?

2) If so, have you ever told them special techniques that might help them learn the meanings of the new words, and remember those meanings?

3) Have you ever seen a student use a method on his/her own that helps him/her recall the meanings of the new words?

4) What are some examples of this type of activity in your classroom? What is the content? What type of materials? How do you teach it?

ACTIVITY TWO
Oral Drills/Exercises

Another activity that is fairly common to ESL classes might be oral drills and grammar exercises. You ask your students to:

1) Repeat a sentence

2) Memorize a dialogue

3) Change tenses from past to present: (Teacher: We go home at two.
Student: We went home at two.)

4) Change positive to negative: (Teacher: Mary studies every day.
Student: Mary does not study every day.)

5) Answer questions: (Teacher: What color is your shirt?
Student: My shirt is blue.)

6) Practice a sentence pattern in a chain drill: (Teacher: What sport do you like?
Student 1: I like swimming, what sport do you like?
Student 2: I like tennis) etc.

My questions are:

1) Do you do this type of activity in your class?

2) If so, have you ever offered the students any tips or suggestions as to how they can help themselves remember the sentences in a dialogue or correct grammatical forms in a drill?

3) Have you ever observed any special methods the students might use on their own to help themselves with this type of activity?

4) What are some examples of this type of activity in your classroom? What is the content? What type of materials? How do you teach it?

ACTIVITY ONE

Pronunciation Exercise

You would like your students to learn the correct pronunciation of several words or sentences. You model the correct oral production for them and then they are expected to reproduce or imitate this pronunciation.

My questions are:

1) Do you have this kind of activity in your classroom?

2) If so, what kind of suggestions or tips do you offer the students to help them learn how to pronounce the new words correctly?

3) Are you aware of any special tricks they might use on their own to remember the correct pronunciation of new words?

4) What are some examples of this type of activity in your classroom? What is the content? What type of materials? How do you teach it?

learned, our interest is in identifying learning strategies foreign language background students use to acquire skills in understanding and speaking English:

Do you have any questions so far?

Do any of your students use learning strategies? What are they?

Now I would like to ask you some questions about learning strategies or "tips" you have given students or that you have seen them use independently. I will ask you about the strategies they use in learning eight different oral activities that often occur in ESL classrooms.

(READ OR PARAPHRASE.) My name is _____ and I am working with InterAmerica Research Associates. We wish to produce an inventory of learning strategies that can be used to help foreign language background students acquire skills in understanding and speaking in English. I am asking for your participation in suggesting some strategies you either teach students or have seen these students use in acquiring skills in understanding and speaking English. Your suggestions and the suggestions of other teachers will be incorporated into the inventory so that it represents the best knowledge on learning strategies available. We will make certain that you receive a copy when it is completed.

Learning strategies are approaches or techniques that students may use to help them learn or remember information. They are differen. from teaching strategies because they are intended to be used by the students, not the teacher. However, sometimes teachers give students tips on how to learn something the easiest or most effective way. These "tips" are learning strategies because students may use them in independent work. Other times the students develop learning strategies on their own without the teacher's assisstance. Regardless of how the learning strategy was

DATA REQUIRED BY THE PRIVACY ACT OF 1974
(5 U.S.C. 552a)

TITLE OF FORM	PRESCRIBING DIRECTIVE
TEACHER INTERVIEW GUIDE	AR 70-1

1. AUTHORITY

10 USC Sec 4503

2. PRINCIPAL PURPOSE(S)

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3. ROUTINE USES

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APPENDIX B

Teacher Interview Guide

ACTIVITY EIGHT

Classroom Formal Speaking

You have to give an oral presentation in class. For example, on a military topic, report a military occupational specialty, or an important military activity, or an explanation of how to do something.

My questions are:

1) Do you do this in any of your classes?

2) What helps you to prepare the report?

3) What helps you to present the report?

ACTIVITY SEVEN

Teacher Lecture

The teacher talks for ten of fifteen minutes about a military topic or about how to learn English. You are expected to listen, get the main idea, guess meanings of new words, and then answer questions.

My questions are:

1) Do you do this in your class?

2) What do you do that helps you understand the teacher?

3) What do you do to remember the main idea? To guess meanings of new words?

4) What do you do that helps you answer questions?

ACTIVITY SIX

Operational (Practical) Communication

You want to talk to a sergeant or communicate an important command to others using only English. Or you need to buy a present in a store. Or you need to make an important telephone call in English.

My questions are:

1) Do you have this type of practical conversation outside of the classroom?

2) Do you ever prepare beforehand? If so, how do you prepare?

3) How do you understand what others say to you?

4) What do you do to help others understand you?

ACTIVITY FIVE

Communication in a Social Situation

You are having a friendly conversation with some people who only speak English, like other soldiers or people in town. You must listen to what they say, understand the meaning, and speak yourself.

My questions are:

1) What do you do that helps you understand?

2) What do you do that helps you remember new words or sentences?

3) What do you do that helps you talk?

ACTIVITY FOUR

Instructions/Directives

In this situation, your teacher asks you to understand directions on how to do something in first aid, CPR, maintenance of the M-16, or even using equipment in the language lab. You must understand what the teacher says, remember what you have to do, and then do it yourself.

My questions are:

1) Do you need to understand directions in your class?

2) Do you need to understand directions outside of class in your other military activities?

3) Do you use special tricks to help you understand directions or remember them?

4) What do you do if you forget what to do next as you are following directions?

ACTIVITY SIX

Operational Communication

A student of yours is talking with a Sergeant or needs to communicate an important command to others that requires him/her to use work, service or operational English. To prepare for this type of communication, you might conduct a role playing activity that the entire classroom could participate in.

My questions are:

1) Is this a realistic classroom activity for your students? Is it a realistic activity with which they are faced outside of class?

2) If so, have you ever offered them tips or suggestions as to how they can best approach this task?

3) Are you aware of any special techniques students use on their own to function effectively in a situation such as this?

4) What are some examples of this kind of activity in your classroom? What is the content? What type of materials? How do you teach it?

5) In what kinds of situations outside your classroom do students have to use operational communication skills?

ACTIVITY SEVEN

Teacher Lecture

You give an oral presentation of about 10 minutes on a military topic or on learning English. The students are expected to comprehend the meaning, analyze the main idea, infer meanings of new words from the context, and answer basic questions.

My questions are:

1) Is this a realistic activity for the students in your classroom? Is it an activity that actually takes place in your classroom?

2) Have you ever suggested a method or methods that might help them follow what you are presenting aloud, retain the main idea, infer meanings, and answer questions afterwards?

3) Are you aware of any special tricks they might use on their own to help them perform this task?

4) What are some examples of this kind of activity in your classroom? What is the content? What type of materials? How do you teach it?

ACTIVITY EIGHT

Classroom Formal Speaking

Your students have to prepare an oral report on a military-related topic, or explain a process, either alone or working with other students. The report must then be presented orally to either a small group of students or to the entire class.

My questions are:

1) Do you have this kind of activity in your class?

2) If so, have you ever offered them tips about how to prepare for and make these kinds of presentations?

3) Are you aware of any techniques your students use on their own to make this kind of task easier?

4) What are some examples of this type of activity in your classroom? What is the content? What type of materials? How do you teach it?

APPENDIX C

Program Director Interview Guide

DATA REQUIRED BY THE PRIVACY ACT OF 1974
(5 U.S.C. 552a)

TITLE OF FORM	PRESCRIBING DIRECTIVE
PROGRAM DIRECTOR INTERVIEW GUIDE	AR 70-1

1. AUTHORITY

10 USC Sec 4503

2. PRINCIPAL PURPOSE(S)

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FORM Privacy Act Statement - 26 Sep 75

DA Form 4368-R, 1 May 75

PROGRAM DIRECTOR INTERVIEW GUIDE

The purpose of this interview is to collect information about the overall ESL program, teachers, students, and facilities at the military base. This information will be used to assist in the design and delivery of istructional training in the use of learning strategies. Our interest in the ESL program extends to the program design, assessment procedures, staffing, and teaching methods. For the students, we want to know about their ECLT scores and also about other available test scores, their ethnicity, place or origin, and type of enlistment. We want to know about facilities available to instructional staff - such as xeroxing and typewriters - so we will know what resources are available to us when we conduct training.

Program Design

There are five areas we wish to cover in program design: functional English required in real life situations after ESL training, objectives of ESL program, scheduling, curriculum materials, and entry and exit criteria, and after program use of English.

1. Please give examples of the type of situation in which a soldier who has completed ESL would have to:

   BT in Eng

   a. understand an English speaker in a face to face encounter
   b. understand a lecture or explanation given to a group
   c. follow oral directions to complete a task
   d. verbally relay instructions
   e. ask questions
   f. explain a procedure to another soldier
   g. make an oral presentation to a group
   h. other

2. What does a soldier have to do after they complete the program? How does he/she have to use English in these tasks?

3. Are any of the above types of language tasks practiced in the ESL program?

   a. Describe any similar listening tasks.
   b. Describe any similar speaking tasks.

4. Do you have a written statement of the objectives of the ESL program? (If not, could you describe what the main objectives are?)

5. What is the length of the ESL program?

6. How many hours per day and days per week do students attend ESL program classes? (Total number of hours of instructional time in ESL program.)

7. What different classes are the components of the ESL program? (e.g., oral language, grammar, reading, military subjects, etc.) Hours per week for each?

8. Could we have copies of schedules?

9. What instructional materials are you currently using in each ESL class?

10. Can we have a set of instructional materials? If not, can we study them and xerox some sample lessons?

11. What entry and exit criteria have been established for the ESL program?

Assessment

There are three aspects of language assessment in your ESL program that we would like to cover: procedures for testing, test schedules, and information about the test instruments currently used.

1. What testing procedures do you use? What tests are administered and in what sequence?

2. Could we have a copy of a sample testing schedule?

3. Could we have copies of the following tests?

   a. ECLT
   b. ALC Tests
   c. DLI Listening/Speaking Scale
   d. SelectABLE
   e. Other

4. Please describe in detail how the DLI Listening/Speaking Scale is administered and scored.

5. What use is made of test results?

6. Do you feel that these tests reflect the instructional objectives of the ESL program? Do the tests reflect the kinds of skills that students will need after they complete the ESL program?

Staffing

There are four areas we would like to discuss in staffing: number of teachers, training, length of experience, and degree of staff turnover.

1. How many teachers are currently working in the ESL program?

2. What is the usual ratio of students to teachers?

3. What training have your teachers had? (Years, type).

4. What are their degrees/areas of specialization?

5. Do you (or have you ever) provide any inservice training? If so, please describe.

6. What is the average length of time that teachers remain in your program?

7. In general, what is teacher morale? Why?

8. How many years of teaching experience do your teachers typically have before joining your program?

9. What types of teaching experience have most teachers had? (e.g., ESL - level, English for English speakers - level, foreign language - level, other.)

10. Do your teachers get any information or training regarding BT or what it is that soldiers need to know in order to succeed or make a career in the army?

Teaching Methods

We would like to find out about teaching methods and class organization in the ESL program.

1. Are teachers free to use any approach or method, or are these prescribed?

2. If prescribed, please describe.

3. If not, please describe which of the following approaches characterize ESL classes in general (give an approximate percentage for each):

   a. oral drills on sentence patterns
   b. memorization of dialogues
   c. explanation and exercises on grammar points
   d. vocabulary learning - how is it taught?
   e. following directions by completing a physical task
   f. discussion activities - describe
   g. reading development - oral/silent - what combination?
   h. listening activities - describe
   i. writing activities - describe (fill in blank, paragraph writing, reports, stories, etc.)
   j. translation into English
   k. giving reports
   l. other

4. How would you describe the methodological approach favored by the majority of your teachers? (What approach do you favor?)

5. How much are students expected to participate in class? What form does this participation take?

6. Do your teachers use demonstrations to teach functional language use?

7. Do teachers give students assignments to use English in out of classroom situations? (e.g., watch TV and report on it; have a social conversation; make a telephone call for information; go shopping, etc.)

8. What do you feel are your teachers' strengths?

9. What are your teachers' greatest needs?

Students

We would like to have information about your students in four general areas: background, ECLT scores, needs, and motivation.

1. What is the overall ethnic/linguistic composition of your ESL program students? (Give numbers and percentages of current enrollments)

   a. Puerto Rican
   b. Other Hispanic - U.S.
   c. Other Hispanic - non-U.S.
   d. Asian - U.S. (languages)
   e. Asian - non-U.S. (languages)
   f. Other

2. Could we have copies of student ECLT scores for currently enrolled students? Can we have the ECLT scores when they complete ESL classes?

3. Are other test scores available? If so, could we have copies?

4. What do you feel are ESL students' greatest needs when they enter the ESL program?

5. What are ESL students' greatest needs when they exit from ESL program?

6. What motivations exist within the ESL program for students to improve their English proficiency?

7. What motivations exist outside the ESL program for students to improve their English proficiency?

Facilities

We would like to know if the following facilities and equipment are available to the ESL program and whether or not researchers could have occasional access to them during the experimental phase of this study:

1. Language Labs
2. Video and Tape Recorders - type
3. Headphones ✓
4. Slide projectors - type
5. Photocopying facilities - type
6. Typewriters
7. Extra rooms that could be used for training, interviews, assessment conference, etc. How many? Size?
8. Paper/pencil supplies

APPENDIX D

Student Background Questionnaire

DATA REQUIRED BY THE PRIVACY ACT OF 1974

(5 U.S.C. 552a)

TITLE OF FORM	PRESCRIBING DIRECTIVE
STUDENT BACKGROUND QUESTIONNAIRE	AR 70-1

1. AUTHORITY

10 USC Sec 4503

2. PRINCIPAL PURPOSE(S)

The data collected with the attached form are to be used for research purposes only.

3. ROUTINE USES

This is an experimental personnel data collection form developed by the U.S. Army Research Institute for the Behavioral and Social Sciences pursuant to its research mission as prescribed in AR 70-1. When identifiers (name or Social Security Number) are requested, they are to be used for research administration and statistical control purposes only. Full confidentiality of the responses will be maintained in the processing of these data.

4. MANDATORY OR VOLUNTARY DISCLOSURE AND EFFECT ON INDIVIDUAL NOT PROVIDING INFORMATION

Your participation in this research is strictly voluntary. Individuals are encouraged to provide complete and accurate information in the interests of the research but there will be no effect on individuals for not providing all or any part of the information. This notice may be detached from the rest of the form and retained by the individual if so desired.

FORM Privacy Act Statement · 26 Sep 75

DA Form 4368-R, 1 May 75

STUDENT BACKGROUND QUESTIONNAIRE

Instructions

InterAmerica Research Associates has been asked by the Army Research Institute to conduct a study to help students learn English as a second language. As part of that study, we are asking you to tell us some things about your background, your language use and proficiency, your education, and your reasons for wanting to learn English. Please complete the following pages to the best of your knowledge. A bilingual translator will be available to answer any questions.

Student's Name_____ Date_____

Military Base _____

Personal Background

1. Are you in the (check one):

   Regular Army _____

   Enlisted Reserve _____

   National Guard _____

2. Where were you born?

3. Where were you living just before you entered the Army?

		Dates (years only)
U.S. (specify state)	_____	_____
Puerto Rico	_____	_____
Other (specify country)	_____	_____

4. What is your background? (check one)

   HISPANIC

   _____ Puerto Rican
   _____ Mexican-American
   _____ Cuban
   _____ Other Latin American (specify) _____

   ASIAN OR PACIFIC ISLANDER

   _____ Cambodian
   _____ Chinese
   _____ Filipino
   _____ Indian or Pakistani
   _____ Japanese
   _____ Korean
   _____ Laotian
   _____ Vietnamese
   _____ Other Pacific Islander
   _____ Other Asian (specify) _____

   OTHER

   _____ (specify) _____

During this initial stage, the attempt should be made to avoid questions that would be difficult for the candidate to answer; this would only add to nervousness. Similarly, no jokes should be used for the same reason, no matter how normal it might seem to utter a "cute" saying if this were a real situation. One should open the conversation with the normal courtesies of having just met somebody, as "How are you?", "I am very pleased to meet you", "How do you pronounce your name?", and so forth.

It is wise to avoid complexity at this stage. In Spanish, for example, a normal yet unfortunate question that often comes to mind in the opening moments of the conversation is "Hace mucho tiempo que nos espera?" or "Have you been waiting for us very long?" This is usually a difficult construction for English speakers to understand and to use; therefore, though normal, it could distress instead of relax the candidate.

Probing Stage

Keeping in mind the definitions of the levels of proficiency, the interviewer should proceed to ask questions that test the impression made during the brief, initial stage. If the initial estimate was too high, then the interviewer should immediately drop down to an easier level; one should never insist on asking questions for which one is not getting answers. If the interviewer is satisfied that the original estimate was a correct one, it is time to proceed to the next and final stage.

Confirming Stage

The interviewer should try to ask more difficult and more complicated questions to see if the candidate can indeed perform above the expectations already established. As long as appropriate, the interviewer proceeds upwards. When

The following four characteristics of the talents of an interviewer are almost always present in a good test:

(1) The experienced interviewer gives the impression that the entire exercise is a most pleasant conversation, usually about the candidate's personal life and work.

(2) The experienced interviewer also seems to be conducting this exercise effortlessly, going from one topic to another as naturally as in a real conversation.

(3) The experienced interviewer is always in control. If a candidate starts to dominate the conversation and rambles on and on, the interviewer will alter this by asking questions more frequently and by asking questions requiring specific answers.

(4) And the experienced interviewer relies heavily on information questions, rather than yes/no questions, and gives the candidate time to amplify answers.

There are three stages[1] in typical tests:

-- The Initial Stage
-- The Probing Stage
-- The Confirming Stage

Initial Stage

This is the "get acquainted" stage. It is usually what happens between the interviewer and the candidate immediately after they meet. It consists of "small talk" that lasts for only a minute or so.

The interviewer should use this short, initial stage to get two things accomplished:

-- To make the candidate feel more at ease. Candidates are usually nervous.

-- To establish an approximate notion of the probable level of proficiency of the candidate.

---

[1] I am indebted to Dr. Allen I. Weinstein, head of the FSI Germanic language section, for the framework of the three stages.

ON INTERVIEWING

1. Begin by asking very simple biographic questions to put the interviewee at ease:

   Where are you from?
   How long have you been here? (When did you arrive at Ft. __?)
   How many are in your family? Where do they live?
   Have you studied English before? How long? Where?
   How old are you?

2. Establish a level quickly and probe for that level:

   If the interviewee has problems understanding the biographical questions, then ask for simple vocabulary items (numbers, colors, objects):

   What color is my blouse?
   What is this? (table, chair, watch, etc.)
   How many chairs are there in this room?
   What time is it?
   How do you spell your name?
   What is your address?

3. If the interviewee answers the first few questions easily, then go on to a higher level:

   What did you do before you entered the Army?
   What did you do at work?
   Describe your experiences at school (Tell me what a typical day was like)
   Tell me about your city (weather, buildings, population)

4. Push the interviewee as far as he/she can go. Probe to the NEXT level:

   What are your plans for the future?
   If you were the sergeant, what would you do to change (training, housing, education)?
   What do you think of Reagan's economic policies? foreign policy?
   What is your opinion of (current events -- El Salvador, statehood for Puerto Rico, relations with the Soviet Union)?

5. Higher order functions include:

   Defending a point, countering an argument
   Persuading someone
   Disagreeing
   Contrasting opinions
   Giving lengthy explanations, stories, descriptions

APPENDIX F

Foreign Service Institute (FSI) Interview Guidelines

FSI Scale Conversation Key

FSI Criteria for Rating Listening and Speaking Proficiency

FSI Absolute Language Proficiency Ratings

Never	Sometimes	Usually	Always		
A	B	C	D	35.	When I hear a story told in English, I listen for the beginning, middle and end.
A	B	C	D	36.	I ask my friends to comment on my English.
A	B	C	D	37.	What I already know in my own language helps me understand what the teacher is saying in English.
A	B	C	D	38.	If I have to give a talk to the class, I plan to say things in the right order and stress things that are important.
A	B	C	D	39.	I try to make friends with people who speak English to me.
A	B	C	D	40.	If I make a mistake in grammar, I stop and correct what I said.
A	B	C	D	41.	I try to connect what I am hearing in a lecture to my own experiences.
A	B	C	D	42.	I try to use words in a conversation as soon as I learn them.

Never	Sometimes	Usually	Always		
A	B	C	D	16.	I think about myself doing the action that a new word describes.
A	B	C	D	17.	Music helps me remember new words because I can say the words to the music.
A	B	C	D	18.	I remember things I say in English and look back at what my mistakes were.
A	B	C	D	19.	When people speak too fast for me, I look for single words that help me understand what they are saying.
A	B	C	D	20.	I do not take notes when the teacher gives directions.
A	B	C	D	21.	When I listen to the teacher, I listen carefully for words she repeats or stresses.
A	B	C	D	22.	I ask people who speak English well to help me practice.
A	B	C	D	23.	I make use of words or parts of words that are similar in English and in my own language in order to learn their meaning.
A	B	C	D	24.	After I think about what might happen in a conversation, I find out if I know the English for what I want to say.
A	B	C	D	25.	I go to movies or watch TV so I can learn English.
A	B	C	D	26.	I listen carefully to my own pronunciation and try to correct it as I am talking.
A	B	C	D	27.	I think about how to apply new things that I hear to my everyday life.
A	B	C	D	28.	When I hear a new sentence, I try to think of a conversation in which I can use it.
A	B	C	D	29.	When I have a long vocabulary list, I divide it up into parts, and give each part a name that has special meaning.
A	B	C	D	30.	I try to imagine new words in a special situation or setting.
A	B	C	D	31.	In order to remember how to say a word, I think of a word that sounds like it.
A	B	C	D	32.	I keep a diary or a journal in which I record my experiences learning English.
A	B	C	D	33.	When I don't understand a person, I think about where we are and what we are doing, and this helps me understand.
A	B	C	D	34.	I do not write down most new words because I won't hear them again anyway.

Name: _____

Base: _____ Date: _____

Remember to draw a circle around the letter that tells what you actually do to learn English.

Never	Sometimes	Usually	Always		
A	B	C	D	1.	When I have a long vocabulary list, I break it up into parts. Then I try to learn one part before going to the next.
A	B	C	D	2.	I make a picture in my head of what a word represents so that I can remember its meaning.
A	B	C	D	3.	I remember new words because I can hear in my mind how they are pronounced.
A	B	C	D	4.	After I study, I know if I studied well because I look back to see if I met my goals for learning.
A	B	C	D	5.	When I don't know what a word means, I use the rest of the sentence to help me understand.
A	B	C	D	6.	When I listen to the teacher, I write down the main ideas and important points.
A	B	C	D	7.	I listen most for names and dates when the teacher talks about history.
A	B	C	D	8.	If I have to give a talk to the class, I give it to a friend first so he or she can tell me how it sounds.
A	B	C	D	9.	I say the same kind of things in English as I did in my own language when I meet a new person.
A	B	C	D	10.	I try to plan what kinds of things to say in a conversation.
A	B	C	D	11.	At parties and other social events, I talk to people who speak my own language.
A	B	C	D	12.	I don't correct myself when I make a mistake in talking because the other person will get the idea anyway.
A	B	C	D	13.	When I hear new information, I try to connect it to what I already know.
A	B	C	D	14.	When I want to learn new words in English, I make up a sentence for each one.
A	B	C	D	15.	I try to divide what I am studying into parts, and remember something important about each part.

LEARNING ENGLISH AS A SECOND LANGUAGE

Student Questionnaire

Instructions

We want to ask about some things that help you learn English as a second language. Students sometimes have special ways of studying, speaking to others, or listening that help them in learning how to speak and understand English. We want to know if you do some of these things when you try to learn English.

On the following pages you will find 42 statements about learning a second language. Please read each statement. Then circle one letter (A to D) that tells if the statement is true of you when you try to learn English.

A. Never true of you
B. Sometimes true of you
C. Usually true of you
D. Always true of you

There are no right or wrong answers. Try to rate yourself on what you actually do. Please work as quickly as you can without being careless, and complete all items.

Example

This example will show how to mark the questions on the following pages. Read the example and draw a circle around the letter that tells how you learn English.

Never	Sometimes	Usually	Always	
A	B	C	D	I translate what I hear in English into my own language so I can be sure to understand it.

If you never do this, draw a circle around the letter A. If you only do this sometimes, draw a circle around the letter B. But if you do it usually, draw a circle around the letter C. Use the letter D if you always do it. Remember draw a circle around the letter that tells what you actually do to learn English.

DATA REQUIRED BY THE PRIVACY ACT OF 1974

(5 U.S.C. 552a)

TITLE OF FORM	PRESCRIBING DIRECTIVE
LEARNING ENGLISH AS A SECOND LANGUAGE: Student Questionnaire	AR 70-1

1. AUTHORITY

10 USC Sec 4503

2. PRINCIPAL PURPOSE(S)

The data collected with the attached form are to be used for research purposes only.

3. ROUTINE USES

This is an experimental personnel data collection form developed by the U.S. Army Research Institute for the Behavioral and Social Sciences pursuant to its research mission as prescribed in AR 70-1. When identifiers (name or Social Security Number) are requested, they are to be used for research administration and statistical control purposes only. Full confidentiality of the responses will be maintained in the processing of these data.

4. MANDATORY OR VOLUNTARY DISCLOSURE AND EFFECT ON INDIVIDUAL NOT PROVIDING INFORMATION

Your participation in this research is strictly voluntary. Individuals are encouraged to provide complete and accurate information in the interests of the research but there will be no effect on individuals for not providing all or any part of the information. This notice may be detached from the rest of the form and retained by the individual if so desired.

FORM	Privacy Act Statement - 26 Sep 75

DA Form 4368-R, 1 May 75

APPENDIX E

Learning Strategies Inventory

20. How important to you are the following reasons for learning English?

	Very Important	Quite Important	Somewhat Important	Not Important
a. Learning English will help me to understand Americans and their way of life.	___	___	___	___
b. Learning English will help me to make good friends among Americans .	___	___	___	___
c. Learning English will help me to think and act like an American.	___	___	___	___
d. Learning English will help me meet and talk to more different kinds of people.	___	___	___	___
e. Learning English will be useful in getting a good job in the military.	___	___	___	___
f. I need to learn English because people respect you more if you know at least two languages.	___	___	___	___
g. I feel that no one is really educated unless they know at least two languages.	___	___	___	___
h. I need to learn English in order to get a higher level of education.	___	___	___	___

21. Here are some ways to use English. Please tell me how important they are to you.

	Very Important	Quite Important	Somewhat Important	Not Important
a. Understand military vocabulary	___	___	___	___
b. Understand military commands	___	___	___	___
c. Communicate military commands	___	___	___	___
d. Buy things at the PX	___	___	___	___
e. Use the telephone	___	___	___	___
f. Understand the sergeant	___	___	___	___
g. Ask questions in class	___	___	___	___
h. Take notes in class in English	___	___	___	___
i. Read Army manuals for occupational specialities	___	___	___	___
j. Talk to native English speaking soldiers	___	___	___	___

16. Do you speak English well enough now to do these things without a problem?

	Yes	No
a. Buy things at the PX.	___	___
b. Use the Post Office	___	___
c. Explain your problem at the dispensary.	___	___
d. Use the telephone.	___	___
e. Order a meal in the city.	___	___
f. Ask questions in class.	___	___

17. Do you understand English well enough now to do these things without a problem?

	Yes	No
a. Understand the sergeant when he or she talks to you in English.	___	___
b. Understand the teacher in class.	___	___

18. What do you do when you do not understand what the sergeant says? (Check all that apply)

a. Nothing ___
b. Guess at what is meant ___
c. Ask to repeat slowly ___
d. Use another soldier as translator ___
e. Other (specify) _____

_____

_____

Educational Objectives

19. How important is it for you to improve each of the following skills in English?

	Very Important	Quite Important	Somewhat Important	Not Important
a. Understanding spoken English	___	___	___	___
b. Speaking in English	___	___	___	___
c. Reading in English	___	___	___	___
d. Writing in English	___	___	___	___

10. Have you studied English as a second language before in school? (Mark as many as apply)

Yes, in public or private school in my home country	___	No. Years	___
Yes, in public or private school in the U.S.	___	No. Years	___
Yes, in a job training program in my home country	___	No. Years	___
Yes, in a job training program in the U.S.	___	No. Years	___
No	___	No. Years	___

Language Use and Skills

11. What language do you usually speak now? (mark one only)

___ English
___ Spanish
___ Other (specify) _____

12. What language do people in your home usually speak? (mark one only)

___ English
___ Spanish
___ Other (specify) _____

13. What other language is spoken in your home?

___ English
___ Spanish
___ Other (specify) _____

14. How often do you speak English now in each of the following situations:

	Almost Always	Some-times	Rarely	Never
a. At home	___	___	___	___
b. With your best friends in the U.S.	___	___	___	___
c. During Army training	___	___	___	___
d. In the barracks	___	___	___	___
e. In stores in the city	___	___	___	___
f. With other students after class	___	___	___	___

15. How well can you do each of the following in English?

	Very Well	Pretty Well	Not Very Well	Not at All
a. Understand	___	___	___	___
b. Speak	___	___	___	___
c. Read	___	___	___	___
d. Write	___	___	___	___

5.

6.

7. Questions 5, 6, and 7 deleted. Continue with Question 8.

8. How many of years of school have you completed?

a. In the U.S.?	____	Highest grade level?	____
b. Puerto Rico?	____	Highest grade level?	____
c. Outside the U.S.?	____	Highest grade level?	____

9. Which of the following best describes your grades in high school? (mark one)

____ Mostly A's (90-100%)
____ About half A's and half B's
____ Mostly B's (80-89%)
____ About half B's and half C's
____ Mostly C's (70-79%)
____ About half C's and half D's
____ Mostly D's (60-69%)
____ Mostly below D

the candidate's ceiling appears to have been reached, the interviewer may try one or two more questions above the candidate's level; to avoid embarrassing the candidate, the questions can be interspersed with "answerable" ones.

STEPS IN A SPEAKING TEST
by Allen I. Weinstein

I. WARM-UP

DO	DON'T	OBSERVE
Put the candidate at ease. Remember he or she is nervous. Engage in small talk; for example, ask about a former student of yours now at the post he or she just came from. BE NATURAL, as you are in the classroom. Smile and be willing to laugh with (not at!) the candidate.	Force the candidate with complicated questions. Don't have a separate conversation with the linguist. Don't try to change your personality just because you're testing.	How the candidate reacts to you. Establish his or her probable range: "Can't possibly be an S-4, and surely better than an an S-1." When you think you know the best performance the candidate is capable of, go on to PROBE.

II. PROBE

DO	DON'T	OBSERVE
Keep in mind the definitions of the levels. Now ask substantive questions at the lowest level you estimated during the warm-up. Let the candidate make his or her own test: this is best done by asking him what kind of work the candidate did at the last post, or what kind of work the candidate will do at the next one. Keep on asking more difficult questions until you think you're sure of the candidate's level.	Wear the candidate down by asking many questions at the same level. (If you spend 15 minutes talking about the rooms in this candidate's house, the last 13 will probably have been wasted.) Don't ask about things the candidate doesn't know or would not be expected to know. Don't finish sentences for the candidate, even though you might in the classroom; if you do you miss a valuable opportunity to find out how well the candidate can cope.	How easily the candidate handles the subject matter. If the candidate does so fluently and with more information than you expected, you are ready to move up one level. When you think you have a pretty good idea of what level the candidate is at go on to CONFIRM.

III. CONFIRM

DO	DON'T	OBSERVE
Ask one or two more questions at one level higher than your probes gave you. Make them long enough to insure a test of comprehension.	Protract the test. (You can lower the score just by wearing the candidate out.)	Listen for details, and things you weren't quite sure about During your probing. If you can't confirm your feeling, go back and probe some more at a high level, then confirm again by moving one level still higher.

FSI SCALE CONVERSION KEY

FSI Rating	Conversion *
0	0
0+	1
1	2
1+	3
2	4
2+	5
3	6
3+	7
4	8
4+	9
5	10

* The 0-5 FSI scale was converted to a 0-10 scale to allow for coding and analysis of plus scores, such as 1+.

FSI CRITERIA FOR RATING LISTENING AND SPEAKING PROFICIENCY

CODE		
0	L-0 No practical proficiency	S-0 No practical proficiency
1	L-1 Elementary proficiency: Understands most simple questions and statements on familiar topics when spoken to very slowly and distinctly. These often have to be repeated in different terms before s/he understands.	L-1 Elementary proficiency: Asks and answers questions on daily personal needs within a limited vocabulary and with frequent errors in pronunciation and grammar.
2	L-2 Limited working proficiency: Understands most conversation when spoken to distinctly and at a slower than normal rate. Points have to be restated occasionally.	S-2 Limited working proficiency: Converses intelligibly but without thorough control of pronunciation and grammar within most normal situations, about current events, his/her work, family, autobiographical information, and non-technical subjects.
3	L-3 Minimum technical proficiency: Understands general conversation or discusses within his/her special field, when at normal conversational speed.	S-3 Minimum technical proficiency: Participates effectively in all general conversations, discusses particular interests and his/her special field, without making errors that obscure meaning.
4	L-4 Full technical proficiency: Understands any conversation within the range of his experience, when at normal conversational speed.	S-4 Full technical proficiency: Speaks the language fluently and accurately on all levels pertinent to military service needs, without errors of pronunciation or grammar that interfere with ease of understanding.
5	L-5 Native or bilingual proficiency: Comprehension proficiency equivalent to that of an educated native speaker.	S-5 Native or bilingual proficiency: Speaks with a proficiency equivalent to that of an educated native speaker.

FOREIGN SERVICE INSTITUTE
ABSOLUTE LANGUAGE PROFICIENCY RATINGS

As currently used, all the ratings described below (except the S-5) may be modified by a plus (+), indicating that proficiency substantially exceeds the minimum requirements for the level involved but falls short of those for the next higher level.

DEFINITIONS OF ABSOLUTE RATINGS

ELEMENTARY PROFICIENCY

S-1 Able to satisfy routine travel needs and minimum courtesy requirements. Can ask and answer questions on very familiar topics; within the scope of very limited language experience can understand simple questions and statements, allowing for slowed speech, repetition or paraphrase; speaking vocabulary inadequate to express anything but the most elementary needs; errors in pronunciation and grammar are frequent, but can be understood by a native speaker used to dealing with foreigners attempting to speak the language; while topics which are "very familiar" and elementary needs vary considerably from individual to individual, any person at the S-1 level should be able to order a simple meal, ask for shelter or lodging, ask and give simple directions, make purchases, and tell time.

LIMITED WORKING PROFICIENCY

S-2 Able to satisfy routine social demands and limited work requirements. Can handle with confidence but not with facility most social situations including introductions and casual conversations about current events, as well as work, family, and autobiographical information; can handle limited work requirements, needing help in handling any complications or difficulties; can get the gist of most conversations on non-technical subjects (i.e., topics which require no specialized knowledge) and has a speaking vocabulary sufficient to respond simply with some circumlocutions; accent, though often quite faulty, is intelligible; can usually handle elementary constructions quite accurately but does not have thorough or confident control of the grammar.

DEFINITIONS OF ABSOLUTE RATINGS (continued)

PROFESSIONAL PROFICIENCY

S-3 Able to speak the language with sufficient structural accuracy and vocabulary to participate effectively in most formal and informal conversations on practical, social, and professional topics. Can discuss particular interests and special fields of competence with reasonable ease; comprehension is quite complete for a normal rate of speech; vocabulary is broad enough that s/he rarely has to grope for a word; accent may be obviously foreign; control of grammar good; errors never interfere with understanding and rarely disturb the native speaker.

DISTINGUISHED PROFICIENCY

S-4 Able to use the language fluently and accurately on all levels normally pertinent to professional needs. Can understand and participate in any conversation within the range of own personal and professional experience with a high degree of fluency and precision of vocabulary; would rarely be taken for a native speaker, but can respond appropriately even in unfamiliar situations; errors of pronunciation and grammar quite rare; can handle informal interpreting from and into the language.

NATIVE OR BILINGUAL PROFICIENCY

S-5 Speaking proficiency equivalent to that of an educated native speaker. Has complete fluency in the language such that speech on all levels is fully accepted by educated native speakers in all of its features, including breadth of vocabulary and idiom, colloquialisms, and pertinent cultural references.